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THE OPERATIVE TREATMENT OF CANCER OF THE BREAST *

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BOSTON

The only treatment of breast tumors which as yet gives any real hope of permanent cure is thorough removal. Operable cancer of the breast must not be subjected to any other method, because of the loss of precious time. I am obliged, at the beginning of my paper, to give the greatest emphasis to this opinion, because I have seen so many preventable disasters caused by this source of delay in resorting to the knife. And it is not at the hands of the inexperienced or of the empirics that I see these disasters, but in the hands of men experienced in the treatment of cancer, who have become convinced of the efficacy of non-operative methods and who cannot perceive the most glaring failures of their methods. The most pathetic instances of this kind of failure have been through months or years of *x*-ray treatment, during which the patients have gone from operability to glaring hopelessness.

Let non-operative means be used only in those cases which are by situation or extent hopeless. I say this in the strong belief that we are soon to discover an effective and permanent non-operative cure.

I realize fully my own deficiencies in trying to present before this body the operative part of the subject. I can plead only a large experience in breast tumors—an experience in which I have encountered many disasters as well as many successes. From the beginning, the worst of these disasters has been the result, first, of overconfidence in the diagnosis of benignancy, either on my part or on the part of the attending physician, by which overconfidence the most favorable moment for extirpation has been delayed or lost. I have therefore been strongly impressed by the importance of early diagnosis.

Another disaster has been the result of inadequate methods of operation. A third worthy of mention has been the result of a disregard of the contra-indications to operation, or the failure to detect them.

To consider adequately any one of these sources of failure—diagnosis, operative treatment, or indications—would exceed the limits of a single paper.

In confining my remarks to the operative treatment of breast cancer, I cannot but feel that the most important things to consider are timeliness and thoroughness of intervention. I therefore introduce the subject of operative treatment by the most important factor for its success—the early, invariable, and thorough extirpation of all breast tumors in which the expert diagnosis of cancer is more than a possibility. At the cancer age a diagnosis of benignancy even by an expert surgeon does not always mean safety to the patient. Even in such favorable cases, there will be made too many disastrous errors, by which the most favorable moment for extirpation will be lost.

The one important consideration in the treatment of breast cancer is that the surgeon is not to be carried away by new methods in the hope of non-operative cure, lest the favorable moment for the successful mechanical extirpation of the disease be lost.

Though, as I have said, I fully believe that we are on the verge of discovering a means of treating cancer before which the disease will disappear absolutely and permanently, I feel that we have innumerable opportunities for using such methods on the hopeless and non-operable tumors. *All non-operative methods must be strictly confined to the inoperable cases.* In our hope and enthusiasm, or even in the face of some apparently extraordinary cures, we must not in the least relax our vigilance, or postpone operation a single day. We have all seen too many so-called "improvements" follow new methods to allow ourselves to be carried away by them; for have not our "improvements," from the days of condurango to the present, ever proved ephemeral and disappointing? And has not the wish been father to the thought? I have seen the rise and fall of all these methods, and many have been and now are their victims. As in the end I have found nothing but failure and despair, so I look forward to more failures and renewed despair. The earlier and more favorable the tumors for surgical extirpation, the greater the failure and the more blameworthy the disaster; and yet I am full of enthusiasm in the hope that the near future or the next method will solve the problem. One single total disappearance of undoubted breast cancer, under any form of non-operative treatment, will presage success, just as surely as a successful man-flight presaged aviation; but in the meantime, as I say, we must not in the least relax our vigilance.

DIAGNOSIS

The diagnosis of breast tumors on which the surgeon plans his operation may be so positive that he can safely extirpate the tumor by the broadest margin, and carry the axillary dissection to its farthest limitations. But can he always be thus positive? May he not unnecessarily remove a breast, and subject the patient to an unjustifiable danger through an error in diagnosis? May not certain cases of benign tumor resemble so closely cancer that the surgeon is mistaken?

One varies, perhaps, in the positiveness of one's opinion. One's diagnosis may be an absolute conviction. I have often said—and I here repeat—that the diagnosis of cancer by gross appearances, plus the history, made by

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an experienced surgeon, is more worthy of credence in some cases than the microscopic examination alone. But it is certainly true that before operation the most experienced may be mistaken. One illustrative case will suffice:

A woman[1] of the cancer age (46), seen in December, 1907, had received a blow on the right breast. A black-and-blue spot followed, with a "little lump" which soon entirely disappeared. Later the bunch reappeared. It was tender and painful. The patient's physician in New York told her that the only safe thing was its removal—advice in which I strongly concurred. I did not think operation likely to cure permanently, for there was a large, hard, infiltrating tumor of the right breast, and my diagnosis was medullary cancer.

The following letter, written to the physician who was to operate, shows how serious a view I took of the case:

"*Dear Doctor S.:* I regret to say that in the case of your patient, Mrs. M., the diagnosis is medullary cancer of the breast. It belongs to the group of rapidly growing and excessively malignant forms of cancer. I can find nothing in the axilla, but the axilla is undoubtedly involved. I concur in your advice of immediate and extensive operation. I should remove the breast and all the skin over it and dissect the axilla up to the first rib. I should remove the pectoralis major and the pectoralis minor, and, if there are any glands above the clavicle, I should dissect the subclavian triangle. Even with the most thorough and extensive dissection that can be made in this case, it is one of those excessively malignant forms which will be followed by an almost immediate recurrence. It is your duty, however, to give this poor woman every chance."

The physician himself operated, removed by an extensive margin the breast and muscles, and dissected the axilla. He had with him a surgeon of experience, who, from the gross appearances of the tumor, agreed with the diagnosis of cancer. The specimen was to me clearly non-malignant. Dr. Whitney's diagnosis was fibroma. The growth was easily removable, and extirpation of the breast, with even its slight dangers and disabilities, entirely unjustifiable.

Although my part of this symposium is strictly the operative treatment, an important element in the operation itself is the demonstration of the diagnosis at the operating-table. The operation demands, before removal of the pectorals and dissection of the axilla, a confirmation of the diagnosis. And this is an essential step of the operation. Neglect to determine, by renewed examination, the nature of the growth, "tumor in hand," may result in an unjustifiable severity of operation. I do not mean necessarily section of the tumor, but I do mean examination between the fingers after the skin incision has been made, the muscles exposed, and the axilla opened. The following case illustrates the difficulty of telling, even after exposure of the tumor, its nature:

(The paragraphs descriptive of this case were written while the patient was being etherized and while my assistant was closing the wound, when the question of error in diagnosis and of the proper treatment under doubt, were most vivid.)

The patient is 47 years of age, and has a tumor in the breast which she noticed two months ago. The disease in this case is, I think, medullary cancer, but I am not positive. Shall I make sure by first incising the tumor, or shall I extirpate breast and dissect axilla on the strength of my diagnosis? I decide first against exploring the tumor *in situ*, because of the risk of auto-infection. I remove breast, pectoralis major, and axillary contents *en masse*. Section of the tumor shows a chronic mastitis, with a single large cyst in the center of the mass. Fluctuation before operation was obscured by the thickness and induration of the breast. There is perhaps a little suspicion of malignancy, but that question awaits the pathologist. The operation has been on the safe side, both for recurrence and for malignancy, and, whatever the diagnosis, the patient ought hereafter to be well.

In this case the axillary lymph-nodes showed to the naked eye every sign of cancer, and I was quite convinced of the cancerous nature of the growth, before removing the whole. The pathologist's report was as follows:

Dear Dr. Richardson: The specimen from Mrs. —— (T. 106—7), June 2, consisted of a large breast, diffusely fibrous, and contained a small cyst. There were lymph-nodes in the axilla which were normal in character.

Microscopic examination showed a diffuse growth of fibrous tissue in which were slightly proliferating gland acini with cystic dilated ducts.

DIAGNOSIS:—Fibrous and glandular hyperplasia with retention cysts.

W. F. WHITNEY.

The opinion which I venture to offer, and the rule which in doubtful diagnoses, especially at the cancer age, I would lay down, is that that operation should be performed which would be indicated were the diagnosis of cancer positive. It is better, I think, to follow this course than first to explore the tumor to make the demonstration of cancer clear. To perform an unnecessarily extensive operation is preferable to subjecting the patient to the dangers of auto-infection.

In this case, with the whole breast in my hands, I could get unmistakable fluctuation in the tumor; but, had I known the tumor to contain fluid, should I have been justified in assuming that the fluid was from a benign cyst? I should not, for it is not uncommon to find collections of fluid in connection with cancer, nor is it uncommon to find malignant degeneration of cysts.

I learned a good lesson a few years ago at a breast operation in Racine, Wisconsin. I found benign tumors of both breasts, and favored extirpation of the tumors alone. Dr. Zeit of Chicago was on hand with his freezing apparatus, and reported malignancy in what seemed to me non-malignant tissue. His diagnosis was "endothelioma in both breasts." With the approval of Dr. Dudley of Chicago, I removed both breasts, and the patient remains well to this day. Dr. Whitney, after a careful examination of both breasts made at his leisure, confirmed the bedside diagnosis of Dr. Zeit. Had I not followed the advice of Drs. Zeit and Dudley, I should have performed an inadequate operation.

In a few cases, reports of which I have already published, carcinoma has developed after the removal of cysts. The percentage, in the whole number of cysts, is extremely small, but it is not a negligible number. The only rule to lay down that would cover such cases would be based on the procedure at Racine—removal of the cyst by a margin sufficiently broad for the immediate microscopic demonstration of the breast tissues. In this way error in diagnosis would be avoided, and immediate radical operation could be performed.

But this question is perhaps a little beyond the scope of my contribution to this symposium. Suffice it to say that, when in doubt, the safe side for the patient demands the more rather than the less extensive operation.

A reasonable accuracy in the diagnosis of cancer of the breast is implied by the opinion of an experienced surgeon that the tumor is cancer. In a word, however positive one's own opinion may be as to benignancy, a single experienced contrary opinion is enough to indicate exploration.

The more I consider the question of reasonable accuracy in the diagnosis of breast tumors, and the larger

1. Office Records lxx, 161.

my experience becomes, the more I am inclined to advise operations on all breast tumors, whether the diagnosis points toward malignancy or not, provided the patient is of the cancer age.

A diagnosis of benignancy is positive enough to contra-indicate operation if the patient is not of the cancer age, and if the history and signs favor that benignancy. But if the patient *is* of the cancer age, a reasonably certain diagnosis of benignancy is not strong enough to justify the postponement of operation, unless there are contra-indications to operation other than in the tumor itself. There is perhaps one exception to this rule: when a second tumor appears precisely like one that by this rule has been removed, and has proved benign—a cyst, for example. I have several such cases under observation, in which I am ever anxious lest I overlook cancer. But even when, at a former operation, a similar tumor has been excised, does not the occurrence of any tumor, no matter if it is benign, show a tendency to tumor growth which the next time perhaps will show malignancy? My own opinion and observation go to show that cancer is no more likely to form in a breast subject to benign tumors than in one not subject to them. But as the cancer age approaches, does not human fallibility offer a reasonable doubt of *any* diagnosis? I believe that at the cancer age it does offer a reasonable doubt, and one that justifies if it does not demand operation. Indeed, why is it not common sense, in view of human fallibility and the fact that we are formulating rules for the guidance of men of widely varying experience and skill in diagnosis, to group together all breast tumors under the heading of uncertainties, of things beyond human skill and subject to all the frailties of human prognosis, and to extirpate them all?

I must admit that I have too little faith in my own opinion—or that of any one else—to let one dear to me run the awful risk of error, when certainty is so easy and permanent cure so sure.

I use the words "without reasonable doubt" in connection with the diagnosis of benignancy to express in the strongest way a human and therefore fallible opinion; and I use these words because of their well-known application in law. The law, in trying to express the justification of a jury's verdict, on which punishment is based, requires on the evidence a unanimous opinion, "beyond reasonable doubt." In surgery a similar freedom from reasonable doubt should prevail when on the opinion may depend health, happiness, and even life itself. And that doubt must be absent in those cases in which, if a necessary operation is deferred or omitted on the strength of it, disaster will follow.

I should not apply this rule to the diagnosis of malignancy. Were only those breast tumors excised in the case of which there is no reasonable doubt of malignancy, much harm would follow. The slightest suspicion of malignancy should demand operation, especially at the cancer age. If there is room for the slightest suspicion of malignancy in the tumor, then it cannot be pronounced benign beyond a reasonable doubt. On the other hand, unless the diagnosis of benignancy is overwhelming, there is no justification in the palliation of benign tumors.

In trying to present my views as to the operative treatment of breast cancer, I find great difficulty in expressing in words my thoughts. I could show this audience, individually, on the patient, what I am trying to say; and I could, I think, show them the tumor which to my mind, being benign beyond a doubt, I should dissect from the breast, or leave alone, and the tumor which without exploration I should remove with the breast, axillary contents and all. But as clearly as I can express my opinion by words whose significance we all understand, it is this: We should remove, breast and all, those tumors in the diagnosis of which there is enough uncertainty to call that uncertainty a reasonable doubt. We should remove from the breast or explore those tumors in the benignancy of which we have enough indecision to call that indecision a reasonable doubt. We should leave untouched only those growths in which we are so positive that we would let them go in the case of our nearest and dearest.

In all cases of great importance a consultation is advisable; but, whatever the number of surgeons and whatever their experience, a single dissenting voice as to the diagnosis should constitute a reasonable doubt, whether as to malignancy or non-malignancy, and the verdict of operating or not should be decided accordingly. On him who decides against extirpation in the presence of such a doubt lies a heavier responsibility than the surgeon, in the present days of safe operating, should be called on to bear. The verdict of a discussion like this, of a body of distinguished surgeons like this, should help him to bear that responsibility.

What constitutes a reasonable doubt of benignancy? The "beyond reasonable doubt of benignancy" is the complement of the slight doubt as to malignancy. When a breast tumor is benign beyond reasonable doubt, there is not left evidence enough of malignancy for the most radical to base indications of operation on. If any man of experience, examining a breast tumor in a case in which I had the responsibility of decision, should say, "I am by no means sure of this being benign; I am afraid it is cancer," I should call that enough doubt of benignancy to justify operation on that tumor. If, for example, everything favors a benign growth but the feel of the tumor, I should say that the slight doubt founded on the feel demanded operation. If the time of life were favorable for cancer, pain, perceptible axillary lymph-nodes, a marked family history of cancer, short duration, rapid growth, adherent and dimpling skin, retracted nipple—any one of these favoring cancer, the other evidence favoring benignancy—would lead me to operate. Of all the signs of cancer, the one that alone indicates operation most strongly is that which fails, through the *tactus eruditus*, to satisfy the surgeon of benignancy, or to remove his last fear of cancer.

In the diagnosis of benignancy, therefore, reasonable doubt is found in any sign or symptom favoring in the least cancer. The evidence of all kinds—the history, family and personal, and the results of physical examination—must be without the least flaw.

But even then, in view of the slight risk of operation, does not the absolute safety of the patient demand operation—after all has been said and done to justify or to postpone operation? Is there any valid reason against the operative investigation, at least, of breast and axilla, except in the clearly hopeless cases?

In trying to lay down rules for guidance in the surgery of breast tumors, am I not trying to sustain a position which, after all, is beyond human power, and therefore subject to human fallibility? Am I not substituting for certainty and safety, uncertainty and danger, and would not a rule of universal operation prevent those disasters, happily infrequent, which cannot but blot the record of even the most experienced and skilful surgeon who endeavors to discriminate between the benign and the malignant?

XUM

The only absolute certainty, then, is removal of the tumor and demonstration of its nature. By this means certainty will be established. But the reasonable doubt that I am speaking of is so slight a doubt that the dangers of acting on it are less than even the slight risks and disadvantages of operation.

I would say, finally, that the broadest and firmest foundation on which to base a reasonable doubt of its nature is that of experience. With men of small experience, the diagnosis is, from the limitations of their experience, open to a much greater doubt than would be called reasonable.

I have learned to beware of the swelling in the breast that is only "glandular"; of the "obstructed milk-ducts"; of the "fatty" tumor, the tuberculous, or even the sarcoma. Such diagnoses, except when made by men of great experience, raise always in my mind the presumption of malignancy. Indeed, I do not know how I can better close this part of my paper than by saying that in all tumors of the breast the presumption should be that they are malignant until they are proved benign—guilty until proved innocent—and that the treatment should be that appropriate to the disease which, unoperated on, is the more dangerous to health and comfort.

OPERATION

The first consideration in the radical operation for breast cancer is a reasonable thoroughness of extirpation. To this all other considerations should be subordinate. The main thing in the operation is to get all of the disease out. The more extensive the operation, the better the result, provided the dissection is extended in the same direction as the disease, and provided the patient lives; but there should be reason in all things. The direction in which the dissection should be far-reaching is along the line of the lymphatics, along the line of the great vessels. This line of metastasis after breast operations accounts for by far the greater number of failures; and yet in many cases the recurrence is in the immediate anatomic vicinity of the tumor-seat in the breast. These local recurrences, without recurrences in the lungs or above the clavicles, suggest the inadequacy of local extirpations. It is probably true that the local recurrences are blamed for the fatal results, because they occur first and kill before internal late metastases are detected. I am not, however, advocating any lessening of the present radical operative measures: I am advocating rather, if it were possible, increasing in breadth and depth the dissection. I recommend a reasonable thoroughness of dissection, and one that varies according to the extent and situation of the disease.

I admit that there would be less likelihood of recurrence after breast operations that included a girdle amputation of the upper extremity; but there would be, on the whole, less good to the greater number than after common-sense limited dissection. A reasonable thoroughness requires the removal of the tumor by a broad margin, and of its route of extension by a broad margin. The tumor itself may be removed by a satisfactory margin, when it is small, by including the breast and everything possible in close relation with it. This is accomplished by taking the whole breast and the skin about its margin; the pectoralis major and the subjacent tissues down to the thoracic wall; the axillary contents as far back as the latissimus dorsi, as high up as the first rib, and as deep as the posterior border of the scapula. The upper axillary dissection requires the removal of the pectoralis minor.

AUTHOR'S TECHNIC

The method that I use is an elaboration of one that I first employed in the early eighties, the principle of which is a dissection of the breast and axilla with knife and forceps, made as thorough and as clean as a dissecting-room preparation. Up to that time the only axillary dissections had been made with the fingers, by means of which the glands affected enough to be perceptible to the fingers were rooted out, as it were. Small glands just beginning to be infected were not then perceptible, and the method, though better than no axillary dissection at all (for there were not a few complete and permanent recoveries in demonstrated cancer) was of course inadequate.

From that time I have gradually added to the extent of the tissues removed, and now include the pectorals and make a very thorough and painstaking dissection of the axilla. I never cut through the clavicles, and seldom subject to any but palliative operations the patients with extension of disease above the clavicle. The removal of the skin in my cases is, I think, as extensive as that in any one's; but I contrive to close the wound effectively with skin. I wish to make here my acknowledgments to Halsted for the suggestion and example of thorough and wide removal of the disease. Except in a few minor points, there is nothing original in the method that I use; but in the elaboration of this method I have followed a definitely progressive line, taking one suggestion here and another there, and perhaps adding a detail of my own. The value of my own contributions to the evolution of this operation will, I dare say, be regarded as trivial, but I have learned to rely on them enough to repeat and now and then to elaborate them.

The mortality for operation is practically nothing. Deaths from shock are unknown in my statistics. On the average, the time from the first incision to the completion of the dressing is one hour. This method, which I have gradually elaborated in many hundred operations for breast cancer, seems to me reasonably thorough. In but few cases has it been necessary to graft the resulting wound. When the breast and the skin over it are so extensively infiltrated that the skin beyond the breast margin is stiff with disease, the patient is, in my judgment, beyond a rational hope of cure, and should be operated on only as a palliative measure preliminary to non-operative treatment.

The first incision goes from the insertion of the pectoralis major to the ensiform cartilage, passing to the sternal side of the breast and including as much of the skin outside the breast margin as is deemed advisable. The sternal skin-flap is next dissected from the subjacent fatty tissues, upward toward the clavicle. When the margin of the other breast is reached, that breast is dissected from the pectoralis major a sufficient distance to permit considerable displacement toward the affected side. If necessary, the other breast is dissected wholly free from the pectoralis major.

The second incision is made from the beginning to the end of the first, but passing well to the axillary side of the breast. The skin-flap is dissected back from subjacent tissues till it is well beyond the posterior fold of the axilla, and exposes a sufficient surface—say three or four inches—of the latissimus dorsi muscle.

The next step is the separation of the clavicular from the sternal portion of the pectoralis major. With the fingers of the left hand lifting the belly of the muscle, its sternal and costal attachments are cut close to the bone. The skin between the breast and epigastrium is

then dissected, with its underlying fat, down to the upper surface of the rectus and obliquus externus muscles. Sometimes the fascia covering these muscles is also taken with the skin. The mass containing the tumor now sags down and away from the axilla, and the opportunity for a careful and clean dissection is given. In most cases—but not always—I next remove entirely the pectoralis minor. To insure a safe and rapid dissection along the great vessels, I next find and expose the vein. For satisfactory dissection the assistants must be careful to do all sponging with gauze that has not been bloodied. By snapping all arteries and veins with two pairs of forceps and cutting between; by snapping all vessels at once as they begin to bleed and wiping with fresh gauze, the dissection may be kept so bloodless that there will be no chance for error. I begin usually at the first rib, and, with the knife, and without fingering, pulling, or hauling, make a complete axillary clearing from the first rib to the anterior edge of the latissimus dorsi, from its insertion to and along the posterior border of the wound; from the depths of the axillary space to the digitations of the serratus magnus. Nothing is left except the main trunks of the axillary vein and artery and the important motor nerves.

As soon as an absolutely dry wound is secured, I close without difficulty the whole in a straight line from the humerus to the ensiform cartilage.

The time of actual dissection is about twenty minutes; of the whole operation, from ether to the end, sixty minutes.

The speed or slowness of an operation seems to me to affect the amount of shock. As far as I can judge from what I have myself seen, a very much prolonged operation adds materially to the dangers, both by shock and by liability to infection. I have not attained that perfection in technic, or confidence in human infallibility, that would make me unwilling to give some consideration to the question of infecting clean wounds. And as I believe that the occasional wound infection is due primarily to exposure of that wound to unseen, unknown, and therefore humanly unpreventable causes, I like to limit that exposure to as little time as practice in dissecting and familiarity with anatomy will make possible. And yet I dare say that I am wrong, and that, as Halsted says, the severity of the shock depends entirely on the amount of blood lost. A rapid and extensive dissection sometimes has seemed to produce more or less impression on the patient, shown chiefly by slow and feeble pulse and by a deathly look to the face; but as I say, the patients, with practically no exception, recover from this shock and from the operation.

My mortality in fifteen hundred breast operations, of all kinds, is but four; and of those deaths, wound infection accounted for two. No patient has died from the immediate effects of the operation, unless suppression of urine be deemed the result of an extensive dissection.

I prefer this method of removing the breast to all others that I have seen. I do not say that it is any better than any other—perhaps it is not so good as many; but I have developed it in my own way and am familiar with its smallest details.

From the skin cut to the thoracic wall the amount of tissue removed increases in breadth. I have seen operations in which the breadth of tissue removed diminishes as the operation proceeds: there will be a broad skin removal, and a narrower portion of muscle and fat, as the thoracic wall is reached. The only way in which the mass removed can be made more extensive is by increasing the amount of skin removed, and by carrying the dissection above the clavicle. Nothing is easier than to make this more extensive dissection when it is deemed advisable. I do not attempt it often, because the operation at best seems but a palliative one; and to subject a patient to dissections which are sure to be ineffective as to permanency seems to me unjustifiable. Let the broad and deep methods be limited to cases in which the disease is limited and in which the dissection extends far beyond the perceptible part of the tumor.

It will ever be a disputed question as to what constitutes a reasonably thorough operation for breast cancer. My opinion is that an operation, to be reasonably thorough, does not demand the most extensive possible removal of tissues, or even of the skin alone, for the most extensive possible means a girdle amputation. Nor does it often mean so extensive a skin removal that grafting is necessary. Nor does it require resection of the chest wall. Perhaps one gets unduly discouraged in operations for breast cancer; perhaps, indeed, a large percentage of recurrences is *prima facie* evidence of inadequate tissue removal. Whatever the reason, two recurrences in three cases—or the very smallest percentage of recurrences ever published—are but too discouraging.

CONTRA-INDICATIONS

I regard as contra-indications to extensive operations in the hope of permanent cure the presence of metastases above the clavicle, of beginning skin infiltrations (*carcinome en cuirasse*), of beginning chest wall growths. In a word, in extensive disease even the most extensive operation is unjustifiable; in limited disease, extensive operation is unnecessary. Yet in some cases of disease so extensive as to be almost forbidding I have been surprised by long immunity from recurrence; and in some of limited disease, by its speedy return after a radical operation. In either case let the extirpation be reasonably thorough, but not beyond common sense. There remain a few cases on the border-line of the hopeless in which the surgeon may or may not select the most mutilating operation, but in which, if his experience is like mine, he will perform the operation with little if any hope.

PROGNOSIS

The difficulty of establishing the prognosis as to recurrence after radical operation lies in our failure to establish definitely the extent and virulence of the case—in the impossibility of making out the type as it were, of the disease—the standard by which all results must be measured.

Nothing is more evident to me than that, in the hands of good surgeons, the results of operative treatment of similar lesions throughout the world are about the same. There is but a slight ratio for or against this or that operation, this or that clinic. Were all surgeons to operate on patients with the same class of some certain special lesion, the results in the long run would be about the same.

In breast cancer it seems to me by no means difficult to separate the cases in which there is no reasonable expectation of cure from those in which the expectation is good. Each operator, as his experience widens, can group his cases roughly into the hopeful and the hopeless, with an intermediate class difficult of grouping. And there should be, it seems to me, such a rough grouping, according to the prognosis of good, bad, or uncertain. Not that the prognosis after operation is ever anything but uncertain, but some cases are more uncertain than others.

When we are talking of prognosis as to recurrence, we are for the most part wasting our time and that of our audience—are we not?—if one of us includes in his statistics cases of conspicuously bad prognosis and another does not; if one of us operates on every tumor that permits an attempt at extirpation, whereas another excludes all that do not permit removal of the whole by a wide margin; if one publishes the results of a selected group of operations, whereas another publishes every case, including the doubtful or even those proved by operation hopeless.

When every case is published—whatever the findings of the operation—the prognosis will then depend on what the operator deems adequate indication for operation. I am very sure that what I regard as an adequate indication, another will regard as inadequate, and *vice versa*.

My opinion is that, in trying to establish the prognosis, only those cases should be included in the statistics which have about the same attributes—and that the surgeon himself is the sole judge. It behooves us, therefore, in trying to tell the prognosis, to be as rigidly unbiased as to the facts as it is possible for us to be. The only really reliable way, considering the impossibility of excluding bias from our own observations, would be to have the patient, the tumor, the operation, the microscope, under the control of an unprejudiced commission.

But perhaps, roughly, we can get a fair idea of the prognosis by the accumulation of large series of results, including all operators of large experience. The first thing that we wish to know is the average prognosis; the second, why one operator has a large percentage of permanent recoveries and another a small; and especially if that difference depends on methods of operating, and if it does so depend, what ratio to the whole the operative dependence is.

As it is, grouping together all cases, a large number of them show the surgeon, long before he completes his operation, that they will fail of permanent cure.

I am, I must admit, so little impressed by the value of statistics that I am not much given to collecting my own, especially in cases of cancer, to establish my ratio of permanent cures. In some fields they are, I dare say, too good to be accepted; in some, too bad to be questioned. In cancer of the breast they are about the same, I think, as those of most operators, and for the same reasons.

If in my immediate mortality I include, as I have here, every breast case I ever operated on, there will be a reliable percentage of recoveries and deaths. Unless I so include every case operated on in the *hope* of radical cure—whatever the hopefulness or hopelessness of the operative demonstration—I am open to the criticism of selecting my cases.

But some of my best results have followed the extirpation of the disease in somewhat discouraging cases.

The statistics—or my statistics (which, however, I have not as yet collected)—of cancer operations may be regarded as an accurate presentation of results after radical operation on cancer that seemed at least to present enough hope to justify that operation. Farther than that, statistics cannot go; and in estimating this, their real value, one must be able to take into account the operator's personal equation, as it were, in judging the operability and prognosis of his cases.

What do we mean by a permanent cure? For purposes of comparison, I accept the three-year limit, without sign or symptom of recurrence anywhere in the body. But has such a brief period of apparent immunity any real significance? And when that period of time has elapsed can we feel sure that there will be no further trouble? I regret to say that the successful passage of three years means no assurance that the original disease will not later—perhaps many years later—show itself. Not five years, or ten, of perfect health means absolute cure; for have I not seen recurrences in the spine later than that?

For these discouraging views I can only plead the truth. Fortunately, the three-year limit indicates the likelihood that more years will pass without perceptible recurrence. So, as time passes, the dread of recurrence is displaced by an ever-increasing confidence in permanent cure. For its encouraging effect on the patient, I am grateful to this arbitrary, if misleading, period of immunity; for its value in establishing a standard by which one's own results may be measured, I make use of it; but, as far as sure indications of permanent cure go, I have long since abandoned it.

Now what constitutes a reasonable expectation of radical cure in operations for breast cancer—a reasonable hope that the given case will be the one of three or four to be permanently cured?

It is perhaps easier to pick out the cases in which there will surely be a recurrence.

In all cases there is the possibility of remote and internal metastases that makes the outlook discouraging. I regard the slowly growing tumor, with but few perceptible glands in the axilla—and those small—as the most favorable form of the disease, especially after middle life. Rapidity of growth, or the slightest sign of infiltration or of edema in the breast, makes recurrence after any operation for cancer of the breast almost certain. A peculiar thickening of the skin over the breast, gradually shading off at the periphery, is a grave sign.

A breast that is solid with the disease and its edema, with the skin over it stiffened as far as the margin, whatever the condition of the axilla, makes the case practically hopeless. When the disease has burst through the skin, as it were, and appears as a discolored mass amid a surrounding of normal skin, the prognosis is not necessarily bad. It is the infiltration in all directions from the central focus that makes unreasonable the expectation of radical cure.

Close attachment of the breast or of the tumor to structures that cannot be removed, of course means hopelessness. A tumor so close to the periosteum of the rib that it can be separated only by peeling it off—periosteum and all—with a bone scraper; or so close to the intercostal muscles that they, too, must come with it, is beyond the reasonable hope of permanent cure. A tumor that is so closely attached to or grown into the thoracic wall that resection of the ribs is necessary, is beyond the hope of cure, and should not be removed in that hope alone.

The same word "infiltration," as applied to the axillary contents, expresses, I think, hopelessness of radical cure. I, for one, never dissect the glands from veins, or other structures, with much hope, unless they are separated by loose connective tissue. When they are separable only by a sort of cleavage from the vein, from the chest wall, from the fascia, hope of permanent success must be abandoned.

Enlarged glands above the clavicle are always, in my belief, so significant of an already existing internal metastasis that I do not operate in such cases with much hope of permanent cure. For other reasons I remove these supraclavicular glands.

The only cases of breast cancer that can be reasonably included in the statistics for the cure of the disease by operation, are those in which the tumor is freely movable, and in which there is no infiltration or close attachment to tissues that cannot themselves be removed. There must be a margin of clear, uninfiltrated, healthy tissue—in a word, the tumors have been, as far as we can tell, completely removed. Furthermore, the glands affected must not reach above the first rib, and there must not be the least sign of internal metastasis.

Only the most favorable cases, then, offer a reasonable expectation of radical cure.

Is there, in those cases which present one or more of the above unfavorable aspects, any hope of radical cure? If so, how much hope must there be to justify a radical operation?

Before operation many of these unfavorable things will not be apparent. In most cases hopelessness is a matter of operative demonstration, for, of course, we do not attempt radical operation on tumors that are clearly hopeless. If any of these unfavorable things can be detected before operation, almost the only justification of an operation for radical cure is human fallibility—the chance that the case may not be as bad as it seems. There is one other justification, however, and that lies in the experience, not uncommon with me, of an occasional extraordinary success when the outlook, such as I have described, has been bad. This is frequent enough to offer a distinct hope, and to justify operation in the doubtful case.

In any case, to take away pain; to relieve discomfort; to keep up the patient's hope; to permit a better application of non-operative measures; to take the blessed chance of mistaken prognosis and human fallibility—to accomplish any one of these things seems an ample justification in breast cancer for so safe an operation.

ABSTRACT OF DISCUSSION

DR. WILLY MEYER, New York: Diagnosis generally is easy because we see these patients too late. Sanguinolent discharge from the nipple, even in the absence of tumor formation, should lead us to observe the patient most carefully. If infiltration within the breast is found, we must think of a beginning cancer and act accordingly. In suspicious cases, I prefer the radical operation to an exploratory incision. In the last five or six years there have appeared in journals, text-books and monographs so many conflicting statements regarding the radical operation for cancer of the breast, that I think that it is but timely to lay down a few historical facts regarding this operation. The radical operation for cancer of the breast is an American operation. It has been worked out and the description published on American soil. There are two distinct advances in this operation. The one works from the chest toward the shoulder, and the other from the shoulder toward the chest. There is no intermediate operation. The one from the chest toward the shoulder, in which the trunks of the feeding blood-vessels and the tendons of the pectoral muscles, with the axillary lymphatics and glands are attended to later on in the course of the operation, has been worked out by W. S. Halsted, of Baltimore. The description was published in the *Annals of Surgery*, October, 1894. The operation in which the surgeon works from the shoulder toward the chest, in which the tendons of the pectoral muscles are primarily met and cut, and the blood-vessels leading toward and from the breast are primarily clamped at their base, and divided, and the axillary fat with glands removed toward the sternum, was worked out in New York and the description published in the *Medical Record*, December, 1894. It was but natural that surgeons should follow the leadership of Halsted, and I am sure that I would have done the same thing had I not seen independently at the operating table the advantages of working in the opposite direction, making the operation a more typical and anatomic one, saving time and blood.

The publications that have appeared in the last five or six years point to the fact that surgeons are gradually coming to do the operation from the shoulder toward the chest. Warren of Boston and Jackson of Kansas City do not favor grafting toward the end of the operation and have therefore modified the operation by making dermatoplasty. In every other essential point the Boston and Kansas City operations are identical with that described in New York sixteen years ago. Rodman, of Philadelphia, also lately has done the operation from the shoulder toward the chest. He is afraid of continuing the incision onto the arm, fearing cicatricial band formation which might interfere later with the function of the arm and therefore he makes his skin incision transversely near the axilla. I have not seen such an occurrence in the ordinary case. Of European surgeons only Rotter, of Berlin, needs consideration. More than one year after the description of the New York operation was published he brought out an operation similar to it. Kocher, of Bern, has never devised an operation of his own for cancer of the breast.

With reference to final results: I still believe that, first, the virulence of the infection in a given case determines the fate of the patient; second, the time of the operation, and third, the situation of the tumor. With the radical operations in the hands of all surgeons, no matter in which direction we advance in operating, between 40 and 50 per cent. of the patients operated on pass the three-year mark; between 30 and 40 per cent. pass the five-year mark, and yet these patients are not always cured. Many have seen the trouble recurring after eight or ten years, and longer. Further improvement in our statistics will come when operations are done early, and when the cause of carcinoma has been found.

DR. PARKER SYMS, New York: We have learned much about cancer of the breast during the epoch which began in 1894, and can now take a hopeful view of the subject. Rodman has stated that it is possible to cure 80 per cent. of the patients with the ideal application of our present methods. This would be dependent on early diagnosis, and an early, radical and properly performed operation. There is, of course, much difficulty in making an early diagnosis in certain doubtful cases; but when we bear in mind the fact that between 80 and 90 per cent. of all breast tumors are cancers, and when we remember that there is a precancerous stage, we may expect to get much better results. Between 10 and 20 per cent. of tumors, though benign at one time, are precursors of cancer and must be regarded with suspicion. Every tumor of the breast should be removed. If a reasonable suspicion exists as to its malignancy, we should perform the most radical operation.

There is one early sign of cancer of the breast, which precedes retraction of the nipple, and which I have never seen mentioned in print. In a large proportion of cancers the nipple of the affected breast is on a higher level than the nipple of the healthy breast, owing to a shortening of the trabeculæ. In a benign tumor the nipple of the affected breast will be lower than that of the healthy breast as a result of simple gravitation. I am glad of this opportunity to supplement what Dr. Willy Meyer said because modesty prevented him from saying what he should. By a coincidence the work of Meyer and Halsted appeared in the year 1894, and it was not till then that we attained satisfactory results in our treatment of cancer of the breast. Prior to that time I had an experience of ten years in the New York Cancer Hospital and in my own experience, as well as in that of my colleagues, I am sorry to say that it was almost unknown to cure a cancer of the breast. We all know what change there has been in our results since these admirable operations were given us. The operation of Meyer is one that I have always favored. I regard it as one of the most important operations in surgery. It is such a beautiful, classic, anatomic removal of all the affected parts, and, if properly done, it is a safe operation requiring but little time to perform. Although it is one of the largest operations we do in the domain of surgery, it is quite possible to shock the patient so little that she may be out of bed in from twenty-four to forty-eight hours. Meyer's operation has, as a particular advantage, the working from the shoulder to the chest,

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against the direction of the flow of the lymph and venous channels, so that we are working toward the tumor and not from it, in that way very materially diminishing the chance of a recurrence by dissemination. There have been many modifications of the Meyer and Halsted methods. Of all incisions devised, those of Jackson are the most ingenious. They should certainly be employed whenever the tumor is not too high so that the quadrilateral flap may be taken from a part well above the growth. The obliteration of the axillary fossa is important. The outer flap should be brought tightly against the chest-wall, so that it will heal there by primary union. The method of dressing deserves special attention. The flap should be held snugly to the chest-wall by means of flat gauze pads, firmly secured with adhesive plaster. The arm should not be included in the dressing, but should be left perfectly free; the patient should be able to assume the "statue of liberty" attitude. If these details are carefully attended to there will never be limitation of motion.

DR. HERMAN TUHOLSKE, St. Louis: I have for the past fifteen years removed all tumors of the breast, whenever I could persuade the patient to let me do it. I have done that in many cases in which I was positive that the tumor was not malignant. These tumors should not remain in the breast, because we never know when they will become malignant. A frozen section was always made in those cases in which I was not quite sure that the tumor was not malignant. The reason for using the microscope is not to assist in deciding on removal of the tumor, but to determine whether radical operation or the usual elliptical incision and removal of the mass is called for. I believe that a tumor, small and round, a fibroma, may be removed safely without amputating the breast; but my experience has taught me that in the majority of cases a tumor occupying much space will in time necessitate the sacrifice of the whole breast. The eye and the hand will always decide the malignancy of the tumor. The patient should always be examined in the horizontal position. It is only then that the hand, moving the breast over the thorax, will discern every little inequality and discover nodules and whether they are hard or soft. In that way and with a careful history you can make a fairly correct diagnosis, and if the tumor is malignant the most radical operation should be performed. My plan has always been to go from the shoulder into the axilla, exposing the large vascular bundle and emptying the axilla of its contents as far as the posterior border of the scapula. I make the cut forward, passing down along the sternum so as to cut the upper part of the external oblique fascia. There something to be removed might be encountered. Then, when the skin is undermined extensively, it will do away with tension of sutures or with the necessity of skin grafting. In all these radical operations not only the pectoralis major but the pectoralis minor should be removed; the latter, because it facilitates the operation greatly.

DR. MILES F. PORTER, Fort Wayne, Ind.: After all known diagnostic skill has been exercised, what is there left? Uncertainty as to the final results. That means that all tumors of the breast should be removed. Doubt can be dispelled by microscopic examination made by an expert only, and that should be done in all cases of tumor of the breast. It has been my fortune or misfortune to encounter four cases of breast trouble in none of which was there any tumor to be discovered on close examination, and in two cases I was assisted in the examination by men who are recognized as being among the best men in the country. In two cases we had to deal with a malignant condition. In two cases the condition was benign. I would call attention, therefore, to the possibility of the existence of carcinoma of the breast without tumor formation. Two of these cases occurred in women at or after the menopause; two occurred in younger women. One of these had a carcinoma, and one of the older women had a non-malignant trouble. The occasion for looking at the breast in three of the cases was a sanguineous discharge from the nipple, without any tumor whatsoever. In the fourth case there was retraction of the nipple with eczema. I am firmly convinced that surgical removal of tumors before diagnosis is possible can cure more individuals and add more to human life and human usefulness than can any other measure. The surgeon should remove the tumor and make the diagnosis from the specimen.

DR. WILLIAM L. RODMAN, Philadelphia: I want to emphasize the last statement Dr. Porter made. If better results are to come at all they must come from earlier diagnoses. It must be admitted by everybody that operative measures have been carried to the extreme limit. We must make earlier diagnoses if we are to get better results. I understood Dr. Porter to say that this can be done only by making frozen sections at the time of operation. Macroscopic appearances are valuable, and experienced men are usually able to hit the nail on the head, particularly those who work in laboratories; but it is simply impossible, and beyond the ken of any surgeon, no matter how experienced he may be, or how sharp in acumen, to diagnosticate a case of abnormal involution which is just changing into a condition of malignancy. And yet this is a very common condition. At least 10 per cent., perhaps 25, of such cases end in malignancy. Therefore the only safe thing to do is to employ frozen sections in all cases of doubt. There is no danger in such a practice if a hot iron is used at the time, even if the case is cancerous. It has been stated that it is not absolutely certain. Of course it is not. Dr. Porter said yesterday that the *x*-ray was the best means of diagnosticating stone in the kidney, and yet he and others admit that occasionally it will fail to detect the stone. We should use all and certainly the best means at our command, at the same time admitting that none is absolutely infallible.

DR. MAURICE H. RICHARDSON, Boston: I believe in the invariable extirpation of a tumor which is a cancer; yet we are not yet so proficient in our diagnosis as to be able to tell always when a tumor is a cancer. In the case of a young girl I do not believe that there is any danger in leaving a small fibroma in the breast, provided that we can see the patient often enough. In performing this operation, I employ a method which has proved entirely satisfactory to me. It is an operation by which the breast wound is closed. I make the Warren incision and the old-fashioned elliptical incision, starting in high up, going beyond the margin on one side and lower on the other down to the ensiform cartilage. That takes in all of the skin of the breast to the distal and to the proximal side. The next step in the operation is to undermine well over to the other side and back to the border of the latissimus dorsi and down to the margin of the obliquus externus. The pectoralis muscles are then removed. There is nothing original about the operation, as I have only followed the lead of others, but I like to do the operation in this way. I do not know that it makes any difference at which end you begin, except for the reasonable argument that you work away from the current of the blood and lymph instead of toward it.

DISTURBANCES OF LACTATION *

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If an apology were necessary for the presentation of this subject I would merely refer to the vast amount of clinical and experimental work and the great number of able papers recording observations and deductions along the line of substitute feeding.

During the past two decades medical literature has teemed with contributions on the subject of artificial feeding of infants, and the world is informed of the awakening of the profession to the necessity for a more exact knowledge of infants' dietetics. That there is good reason for this activity is evident in the high rate of infant mortality from dietetic disorders.

Research, observation and clinical evidence beget research, observation and clinical evidence. Ideas and

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theories find champions, patents are secured for artificial foods and methods of feeding, the mercenary spirit is aroused, and the money power enlisted, chemists, clinicians and practitioners enroll under the different banners and the merry war is on.

Just now a lull in the conflict allows us to look over the field and observe that the leaders of the "exact percentage feeding" idea have gained signal points of vantage in the population centers while their opponents are sullenly withdrawing to the woods with the evident intention of continuing the struggle in the rural districts. Each faction claims a victory and statistical bulletins announce the delivery of the human infant from nutritional disorders.

The observer can hardly refrain from indulging the conjecture that, if the originator of the plan of genesis could have secured for Rotch or Beidert or Lehman or Professor Gaertner access to the ear of the First Great Cause, Grandmother Eve's pectoral function might have been arranged more in conformity with modern laboratory ideas.

"What!" exclaims Mother Partington; "is it true they are about to abolish the mammary gland? that the maternal lactiferous fount is to be relegated to a condition of innocuous desuetude? Are the sufferings of our good old maternal progenitor, great-grandmother Marsupiala, in vain? Is the adjustment of her pectoral integuments to the assaults of the cruel mandibles of her ornithorhynchous progeny to count for naught? Is that wonderful mechanism by which the female mammal supplies nutriment for the infant a failure? Is the human mammary gland inadequate to meet the requirements of civilization? If so, why? Wherein is it inadequate? What long stride in our evolution has taken us beyond the reach of compensatory development?"

The lower orders of mammalia, both free and domesticated, nourish their young by lactation with success to a degree that, by comparison, seems to place instinct above intelligence when contrasted with the failures in the human being. In all candor let us inquire whether it is not expedient that we should devote a portion of that vast energy now expended in the search for substitute foods to the subject of "disturbed lactation and its causes." Let us face this question squarely. Have we exhausted the resources of the human mammary gland as a milk laboratory? I beg leave to emphasize the importance of careful clinical and analytic work towards a determination of the causes of disturbances in the equilibrium of mother's milk.

Before entering on this subject the physiologic process by which milk is produced should be considered briefly, in order that some of the influences which affect these changes may be better appreciated. A peculiarity of the function of the mammary gland is that it persists during a more or less definite time and then subsides. Exceptions are seen in some cases of prolonged lactation, and in curious instances in which the function is established in women who had never conceived, under stimulation of the nipple by sucking, a point of clinical value.

Without taking time to review the structure of the gland, attention is called to the fact that the alveoli are lined with columnar epithelium, and it is by means of these cells that this composite emulsion is produced.

The exact mode of its production from the circulating fluids has been a subject of much discussion and extended research. The older belief that the cells of the glands operate as a sort of filter, the milk being derived directly from the blood, has been rejected as unscientific. To-day three theories claim attention.

Stated briefly, the first explains the production of fat by an actual breaking down of the lining cells—a fatty degeneration—a process which, it is estimated, would require the renewal of the epithelium of the alveoli at least five times in the twenty-four hours. This is held by some to be preposterous. The second theory is a modification of the first, as only the free ends of the cells, after a stage of increased activity, appear to break down, liberating their products of metabolism, the fixed ends with the nuclei remaining to renew the process. The third attributes to the cells of the mammary gland, through the agency of protoplasm, a power analogous to that of other secreting structures, viz., the power of elaborating from the fluids a secretion peculiar to themselves, cell destruction being no more necessary than in other secreting glands. More exact knowledge on this subject would be valuable in its bearing on the subject of changing the constituents of the milk by physiologic methods, as feeding, etc., a matter which has hitherto been determined exclusively by clinical observation and experiment. Were the glands mere filters, as was formerly taught, it is reasonable to suppose that the quality of their products would partake of the nature of the blood constituents, and that changes in the latter would produce corresponding changes in the milk, a result which repeated observations have disproved.

No secretory nerves have yet been demonstrated in the mammary gland, but, were clinical data wanting, analogy would compel the acceptance of the hypothesis of nerve influence and control in the secretion of milk, probably through the cranial and sympathetic nerves. It is a fact of such common observation that mental conditions influence the milk-supply that no teacher denies it. Violent emotion, excitement, shock, fatigue, may alter any or all the secretions. Secretory glands may become vicariously excretory, etc.

Milk secretion is subject to variations in quantity as well as in quality. In the majority of cases it is regulated to meet the requirements of the infant, although instances are common in which the quantity is insufficient. On the other hand, it frequently occurs that the mother may successfully nurse two infants, as in the case of twins, or in wet-nursing in foundlings' homes, etc. From this it may be inferred that in some mysterious way, to a limited extent, the supply is regulated by the demand. It is believed that the surplus, if not drawn, is reabsorbed.

It is a question whether the daily quantity of milk can be increased by any medicinal agent. It is well known, however, that the mammary secretion, both as to quantity and composition, is quite sensitive to many influences. The secretion is usually diminished by a so-called "dry diet," in which there is a deficiency of water, while, on the other hand, it may be increased by a liberal allowance of fluids.

Attention is directed to the mental attitude of the mother during nursing as influencing the quantity of milk. It must not be forgotten, however, that overanxiety to produce may defeat its object. Loss of fluids from any cause—as copious perspiration, menstruation or diarrhea—may lessen the amount.

The secretion of milk, when scanty, may be increased by any agency that increases normal metabolism—as diet, exercise, massage, electricity, fresh air, sunlight, congenial surroundings, freedom from discomfort and an equable temperament. Sudden emotion—as grief, anxiety, anger, fear, or anything that produces shock or profoundly impresses the nervous system—may not only

diminish the secretion, but occasionally may cause total suppression.

It is accepted that the constituents of milk may be influenced by variations in the hygiene, especially in the diet of the mother. The former belief that the fat of the milk was increased by the fat ingested has been repeatedly disproved by actual experiment, although Winternitz claims to have demonstrated its truth in lower animals. It is believed to-day that the proportion of fat in the milk depends largely on the amount of protein in the mother's food, increase or diminution in the latter causing a like change in the former. This relation of proteins in the food to fats in the milk is a matter of daily observation. A mere ingestion of albuminoids, however, is not sufficient to produce a "rich milk," since thorough digestion and assimilation are essential to fat elaboration. Fat may be scanty in the milk, not only from an insufficiently nitrogenous diet, but also as a result of excess of fats in the food. Examples are not wanting of mothers who, in their efforts to enrich their milk, defeat this object by inordinate ingestion of cream.

The proteins are rarely low, except in cases of exhaustion or debility, as from sickness or insufficient food. In this condition the milk is poor and watery, there being a deficiency in all the solids. It may occur that the mother's milk, in cases of debility, shows an excess of proteins with a deficiency of other constituents. Excessive proteins may appear also in the milk of the overfed mother of sedentary habits.

Sudden disturbances in the digestion of a healthy nursling leads the physician at times to startling conclusions in his search for their etiology. Violent agitation of the nervous system of the mother may change the quality of the lacteal secretion almost instantly; the milk quite frequently, under these circumstances, resembling colostrum in its changed proteins, low fat, and colostrum corpuscles. Instances are known in which convulsions and even death to the nursling have followed.

The analysis of the mother's milk frequently leads to the discovery of the cause of the infant's indigestion. The secretion of colostrum milk has been known to follow undue fatigue, excitement, anger, grief, coitus, also menstruation and conception. In fact, disturbances of digestion in the infant are frequently the first intimation of another pregnancy in the mother.

Both the quantity and the quality of the milk are influenced by the frequency of nursing. Poor milk frequently results from prolonged or irregular intervals in nursing. The more frequently the breasts are emptied the higher will be the percentage of solids, especially the proteids.

Among many probable influences that operate to the disadvantage of normal lactation I would suggest as worthy of immediate study (because apparently most ignored) (1) the return of maternal menstruation and (2) the indulgence in coitus during lactation.

Pregnancy in the nursing woman has long been regarded by the majority of observers as a contra-indication to suckling, but, as to the effect of menstruation and coitus wide differences of opinion are apparent and the paucity of reported observations concerning their influence on lactation is, to say the least, quite startling.

The lame excuse that the subject is delicate and the facts hard to get at because (for obvious reasons) our sources of information are unreliable, is just as valid along other lines, and was formerly considered a bar to the clinical study of anatomy, physiology and gynecology. The gynecologist found it necessary to know of and to control the exercise of sexual function in his patient ere he secured satisfactory results. Shall the pediatrician be expected to work in ignorance of conditions of possible vital importance to the welfare of his nursling patient? Must he be handicapped in his control of certain important elements in the hygiene of lactation?

The prevalent modern uplift movement in social hygiene is facing some startling facts and theories and is becoming familiar with very plain language largely in the interest of the unbegotten progeny. Shall lack of candor concerning sexual hygiene sacrifice the already born nursling?

With all due appreciation of the high degree of success attained by our rapid advance in substitute feeding, I protest against the too frequent early resort to the artificial, before the possibilities of the natural mode of feeding have been exhausted. I believe that there are moral and prudential, as well as physiologic and sanitary reasons, why the rapidly increasing tendency towards abrogation of this maternal function should be checked.

These and kindred considerations have impelled me to look up the literature as to the effects of menstruation, and more especially coitus, on maternal lactation. A review of over ninety books on diseases of children, obstetrics, physiology, physiologic chemistry and about 200 magazine articles on infant-feeding and allied subjects, shows not more than a dozen authors who directly referred to effects of sexual intercourse during lactation. Time will allow but a few references to older writers.

Bouchut[1] quotes an aphorism of Galen: "I order all women who are nursing children to abstain from venery."

Chevasse[2] says: "If the mother begins to menstruate, she should refrain fromcoitus, from probability of conception."

Bouchut quotes Platner: "Certain it is that unsatisfied desires are worse and more harmful than a rare and moderate use of venery." Routh[3] in treatment of defective lactation refers to great sympathy between breasts and genitalia, states that proper functional use of the one will influence the other and advises occasional reunion to improve and excite flow of milk.

Hartman[4] says that sexual intercourse may be allowed the mother moderately; it should be forbidden only from danger of ensuing pregnancy.

Trousseau[5] says that conjugal intercourse is not injurious to nurse or nursling provided it is regulated by great moderation.

Laurent Joubert in "Curiosities," advocated moderation from personal experience in his own family.

Vogel[6] says, "Whether a coitus, on which no gestation follows, is in itself injurious, I am unable to say; but it does not seem probable."

Bouchut says that nothing positive is known concerning the influence of coitus, but that wet-nurses should be forbidden it from danger of conception following and the consequent diminution of milk. He recites a case of a young woman whose child fell into violent convulsions each time she gave herself up to coitus, but says that numerous examples on the other hand demonstrate that influence not always so injurious.

1. Bouchut: Diseases of Children, 1855.
2. Chevasse: Advice to Wife and Mother, 1877.
3. Routh: Infant-Feeding, 1879.
4. Hartman: Diseases of Children, 1853.
5. Trousseau: Clinical Medicine, 1871.
6. Vogel: Practical Treatise of Diseases of Children, 1806.

Routh ("Galactorrhea") says that there can be no doubt that irritation in the uterus itself, or its immediate appendages causes profuse secretion. Undue excitement has been known to produce a jet of milk from both breasts, which has subsided only with the cessation of the stimulus. He says nothing concerning the quality of such milk.

Busey[7] says that excessive sexual indulgence during the period of lactation seriously deteriorates the nutritive qualities of the milk. This influence has not been definitely determined. The unwholesome and sometimes pernicious changes produced in the mother's milk by sudden bursts of passion, menstruation and excessive sexual indulgence are too well established by clinical observations, if not by chemical analysis, to be considered mere coincidences unworthy of the attention and careful scrutiny of the scientific physician. Woman is the highest type of the breeding female, yet she is the only one not exempted from the approach of the male by a natural interval between the periods of estrum. It is a law of the physical economy that excessive indulgence of any animal passion, or the overwork of any function or organ, is detrimental to the whole organism.

The "Dictionary of Medical Sciences" reports a case of a woman whose milk gushed out with force and abundance during coition; the quality is not mentioned. Herodotus refers to this long-known effect.

Engelmann[8] says that the negroes of Loango of Central Africa are a fair type of the black race. With them women are prohibited from sexual intercourse during lactation, which averages from twelve to fourteen months. Among the northern tribes of Russia the mother dwells apart for several months after confinement. On the slave-coast, when women become mothers, they are sent away for three years to nurse the infant and to prevent cohabitation. If the act should be accomplished they believe that the evil spirit takes away the milk and the child dies. A woman is chosen for the husband by the wife during her own period of lactation. The Japanese employ "by-wives." Native women of Africa, Asia and many of our Western territories are not only kept apart from the husband during confinement but for weeks afterward. With them as with Hebrews there is the idea of uncleanliness. But by this isolation, rest and non-exposure the women escape numerous uterine troubles.

Regarding the Jewish custom[9] of a longer period of uncleanliness for a "maid child" than for a male, Kotelman believes it was because females were weaker, more despised and believed to be more unclean. For a boy the period of lochia rubra was seven days and twice that period for a girl. The lochia alba lasted thirty-three days for a boy and sixty-six for a girl, before their burnt offerings could be made.

Arabs do not deprive themselves of sexual intercourse during the course of lactation. The Prophet, however, without expressly forbidding this practice, lets it be understood that it must not be an injury to the nursling. According to Sue, Mohammed commanded a widow who was nursing a child not to remarry before two years, counting from the day of birth of the child, unless he should die or her milk be dried up.

Busey-Caseauz suggested a "relation of causality between rickets of the infant and the frequent occurrence of the menses during the greater part of lactation"; but Tilbury Fox was the first to assert and prove the direct relation of cause and effect. From numerous observations carefully recorded, he deduced the important conclusions that when rickets attacks a child entirely dependent on the mother's milk, the mother will be found to have menstruated during lactation regularly for several months and the degree of rickets will be in direct ratio to the frequency, duration and amount of menstrual flow. My own observation fully corroborates the testimony of Fox.

Hirst[10] says that return of menstruation will sometimes affect the quantity and quality of milk but not as often as popularly supposed. Zweifel, Winckel, Joux, Tilt, Becqueril and Vernois state positively that the return is without influence on lactation. Tilt obtained these results; of 100 women whose menstruation returned, forty-five retained milk unchanged; in eight it was diminished; two lost the milk altogether; twenty-four had large flow during and fifteen after menstruation. In six the percentage of solids decreased.

Rotch[11] gives few analyses, but suggests the probability of a deficiency in fats and increase of proteins.

Holt[12] says that the effect is exceedingly variable, depending on individual and ease of menstruation. Meyer in 685 cases noted disturbances in over one-half. At the present time sufficient observations have not been made. Monti believes that the fat is not constantly affected.

Schlichter[13] arrived at conclusions after careful watching and chemical analyses; the increase in weight during menstruation in many cases was extraordinary. Increase in weight is greater during and directly after the appearance of menstruation than before. Metrorrhagia before the sixth week may retard development.

Diseases in the nursing child, as dyspepsia, colic, enteric catarrh, occurring during menstruation, should be regarded as coincidences.

The "American Text-Book of Obstetrics" (1895) says that the presence of colostrum corpuscles after the eighth or tenth day indicates qualitative changes in the milk which may disagree with the child. This has been observed when the mother has been affected by some profound nervous impression, such as excessive grief, fright, fatigue, or sexual excitement, anemia, and occasionally the return of menstruation.

Jacobi[14] says that pregnancy is incompatible with lactation. It is rare for a woman to have strength and blood in sufficient quantity to sustain herself, nursling and an embryo. Therefore as early as 1758, a law was passed in France, according to which wet-nurses had to inform their employers of the occurrence of another conception. Not very rarely will the uterus not be able to resist the persistent mammary irritation kept up by nursing and the fetus is expelled. The milk of a pregnant woman undergoes a certain number of changes. Milk assumes the nature of colostrum. Changes brought on by menstruation are analogous, though not so complete. Opinions differ as to whether it contra-indicates nursing; for it is true that there are many observations of colic, vomiting and acid diarrhea, but just as many of entire euphoria. Sutils[15] records an investigation of the influences of pregnancy on nursing women as shown in weight of infants. In twenty-six cases, on the nurse's becoming pregnant, there was retardation in child's gain.

7. Busey: Mortality of Young Children, 1881.
8. Engelmann: Labor Among Primitive Peoples, 1883.
9. Leviticus, xii, 2, 5.
10. Hirst: Abnormalities of Milk Secretion.
11. Rotch: Text-Book, J. B. Lippincott, 1908.
12. Holt: Text-Book of Diseases of Children, D. Appleton, 1909.
13. Schlichter: Wien. klin. Wchnschr., 1889.
14. Jacobi: Influence of Menstruation, Pregnancy and Medicine on Lactation.
15. Sutils: L'Obstetrique.

XUM

That the early appearance of menstruation is a frequent result of coitus during lactation I believe to be true. I am satisfied that disturbances of lactation on the recurrence of menstruation is the rule with few exceptions.

Unlike Schlichter's, my own observations show that the child gains weight occasionally toward the close of and nearly always immediately following menstruation. Exceptions to this are seen in those cases in which the digestive disturbances of the nursling are unusually marked, such disturbances most frequently occurring during the approach of or in the early days of the menstrual molimen.

My own observations lead to the conclusion that gestation, menstruation and copulation in the large majority of cases are inimical to the highest perfection of lactation; that there are apparent exceptions to this may only prove the rule.

I believe that primitive woman attained to the highest degree of perfection in the exercise of but one of these functions at a time; that primarily menstruation did not recur during lactation nor during gestation; that woman's period of estrum ceased with conception and remained quiescent throughout gestation and lactation; that coitus out of the period of estrum was forced on the primitive female as the price of monogamy; that one of the results of the compromise is menstruation during the primal period of rest.

The price of civilization includes other items of compromise with natural laws which tend to prevent or deteriorate healthful function. As a result of these misplaced or superinduced reproductive functions I have noted the injurious effects on the nursling in varying degree from retarded weight gain, loss of weight, athrepsia, marasmus, and acute gastro-intestinal disturbances to sudden death in convulsions or coma from acute intoxication.

Truly, it is claimed that menstruation and especially coitus are factors difficult of isolation in the etiology of disturbed lactation. The alert observer, however, will encounter not infrequently cases in which this factor is obvious; as, for instance, the normal lactation in maternity hospitals disturbed on returning to the husband reestablished on reentering hospital; the cases of impoverished or perverted lactation which improve under relief from sexual duties as a result of sickness, absence, injury to or death of the husband, or the hygienic visit to grandmother's; not to mention the authentic occurrences of dyspepsia, convulsions or even death of the nursling following the return of the commercial drummer to the bosom of his family.

The gynecologist has demonstrated that cohabitation is in many instances inimical to successful treatment, and he learned to supervise the sexual relation of his patient. Are we willing to admit that the matter is too difficult for the pediatrician?

If then in all possible cases of indigestion or disturbed nutrition in the nursling, in which other cause is not apparent we add to our routine of weighing and milk analysis a careful supervision of the nurse as to the physical and functional condition of the generative organs with exact knowledge as to her sexual habits, we shall undoubtedly arrive at more definite conclusions. The field promises to be too fruitful to remain much longer fallow. If just a moiety of the energy and ingenuity now expended on the problem of how to rob the baby of his birthright through the substitution of unnatural foods were applied to the question of normal lactation the resultant betterment of both mother and nursling, the lowered infant mortality and diminished child morbidity would, in my opinion, prove a most profitable harvest.

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COMPLEMENTAL FEEDING OF THE INFANT AS AN EFFECTIVE AID IN MAINTAINING MATERNAL NURSING *

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Possibly no subject to-day is attracting more serious attention among the thoughtful members of society in various civilized countries than that of the necessity of devising measures to reduce infant mortality. While the phases of this question are legion, and the remedies complex, there is at least uniformity in the opinion that maternal nursing furnishes one of the chief aids in the solution of the problem, provided the breast-milk already is, or can be made to be, competent. I have already addressed this body concerning measures directed to the nutrition and health of the mother, which may be employed to assist in maintaining or reestablishing a sufficient flow of breast-milk, and it is not my intention to dwell on this phase of the subject.

While such measures have proved to be often most helpful, it would be absurd to assert that they are always completely successful. However, even in less successful instances there is often some undoubted gain both in quantity and quality of the mammary secretion, although the total secretion may not at best suffice to satisfy all the needs of the infant, as shown by its inadequate increase in weight. It is, nevertheless, a definite strategic gain, measured by the future chances for the infant's life, if the threatened loss of breast-milk can be stopped or even delayed. The continuance of a moderate amount of breast-milk ensures a greater probability that the newborn infant will not suffer from serious disturbances or retrograde rapidly into a condition of malnutrition. Such delay at least enables us to introduce, with necessary caution, and without undue or disturbing haste, the additional nutriment which the infant requires. This may be done with more confidence, because of the recognized aid which the natural ferments of human milk seem to offer in the digestion of other forms of milk.

This paper is presented to draw attention to the available methods of supplementing a more or less deficient secretion in order to bring about normal development in infants who at best can only receive a somewhat deficient breast-milk. The far too common course with such infants is to abandon the idea of utilizing the breast-milk, and immediately or rapidly to substitute bottle-feeding. This step is based on failure to gain weight, the evident dissatisfaction of the infant, apparent abnormality of the infant's stools, and the traditional assumption that these phenomena are caused by unsuitable breast-milk. It is exceedingly probable that much that has been accepted concerning the frequent occurrence of poor or injurious breast-milk must be corrected in the light of more recent investigation of these matters.

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

DEFICIENT NUTRITION NOT INDIGESTION

After years of misapprehension, we should now recognize the simple truth that mucoid and somewhat frequent stools, varying in hue from dark green to golden brown, and containing but little fecal residue of milk, are the stools of a relative starvation, and indicate a scanty intake of breast-milk, and not digestive disturbance caused by a breast-milk of abnormal chemical composition. When this view assumes its place in medical teaching and practice, more infants will be started smoothly on the road to normal increase of weight, instead of being switched off in the direction of

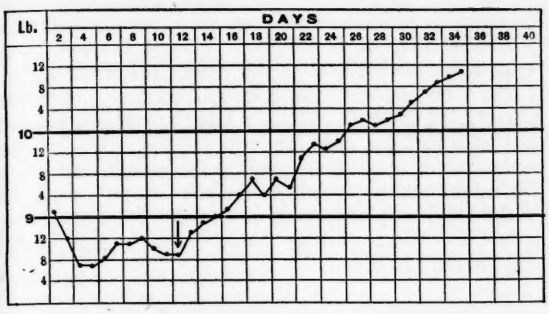

Fig. 1.—Daily weight chart of C. D., male. On eleventh day use of whey was begun, one ounce being given after each nursing. Across top, figures indicate days; down left side, weight in pounds.

marasmus by early weaning and utterly misguided efforts to correct a digestion that only demands more breast-milk to digest. That the import of such stools, so easily confirmed by any open-minded investigator, should have escaped general recognition so long, seems almost incredible; yet it is the key to the right management of many infants.

IMPROVE THE MOTHER'S NUTRITION

If the trouble be not due to the simple failure of the infant to draw the milk from the breast, with few and rare exceptions, breast-milk which is considered poor or injurious is only the deficient secretion, possibly, of ill-functioning breasts, but more commonly of those of a human body which is improperly nourished or physically below par in other ways. It is irrational to suppose that such a body can always produce good and abundant milk; on the contrary, it is a matter of surprise that it does so as often as it does; but it is rational to the same degree to assume that, with a favorable diet and the restoration to bodily vigor, the quality and quantity of the secretion should improve. That this cannot be accomplished at once, and that in many cases a perfectly normal quantity of milk cannot be produced is but natural, yet the value to the infant of the available, even though somewhat inadequate, natural nourishment, should be neither underestimated nor forgotten. We may not at all times feel justified in waiting for this improvement in the breast-milk to take place, and pending a final judgment on its possibilities, something further may be necessary for the welfare of the infant.

EARLY PERIOD IMPORTANT

Of the various periods of infancy in which a stationary weight is a menace to the infant, that of the first few weeks of life is preeminent. While standing still it is really losing ground, because it is not acquiring the vigor and capacity to make the increased demands to which the breast, by normal physiologic adjustment, endeavors to respond. We need not search for any special dispensation of Providence which enables many a mother of twins to nurse both of her babies. The explanation is to be found in the response of the breast to the larger demand.

There is a further reason why breast-milk, even if somewhat deficient, should be utilized to the utmost in order that the infant may secure a good start. The worst type of marasmic infants, by common consent, is often found in those who have failed to receive breast-milk in the first weeks or months of life. This is undoubtedly because the digestive system, having only reached a certain stage of its development at birth, cannot without further growth of the body, receive its natural increment of digestive and absorptive power.

DEVELOPMENT SHOULD BE PROGRESSIVE

After the initial loss of weight in the newborn, which Hirsch's[1] careful studies show to be practically equal to that of the meconium and fluids voided, the development of the immature body should normally be progressive. When this does not occur for any considerable length of time, or having begun, ceases, experience teaches us that the matter may have a more serious aspect than that of a merely stationary weight, for where progress is lacking there may be also an actual deterioration in assimilative power. This seeming paradox reaches its full demonstration in the marasmic bottle-fed infant which, having long failed to gain, is often with the greatest difficulty brought to a point where it will renew its assimilation of food in sufficient quantities to resume normal growth. This should not be construed as meaning that there is an immediate danger to the infant in our continuing for a reasonable period every effort to bring about the mutual physiological adjustment between mother and child, so often delayed on the side of either by temporary and remediable factors, but that the policy should not be continued indefinitely.

During the waiting period, which may continue for ten days or two weeks, attention should be paid to the diet and hygiene of the mother, and weaning should not be lightly decided on if there be reasonable expectation of success. Nevertheless, in our management of these babies it is of the highest importance to conserve as far

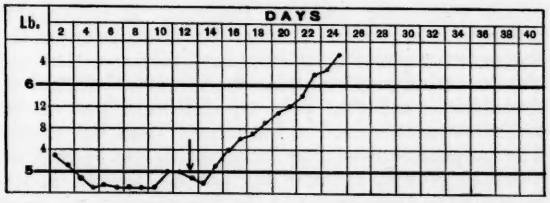

Fig. 2.—Daily weight chart of E. J., male. On twelfth day use of whey was begun, one ounce being given after each nursing.

as possible and utilize the initial impetus to growths which is possessed by every newborn infant. The greatest aid is obtained from breast-milk, which contains, or may elaborate, principles which stimulate digestion and absorption. But to accomplish this end, it is rational that when the breast-milk of the mother for any reason, temporary or otherwise, proves insufficient to supply all the material needed for normal continuous growth, we should make up this deficiency by giving in addition some form of supplementary feeding.

1. Berl. klin. Wchnschr., Jan. 3, 1910.

SMALL COMPLEMENTAL FEEDINGS

Most striking in my work along this line has been the discovery of how simple may be the food and how small the quantities which often serve under such circumstances to inaugurate a gain in weight. As little as half an ounce of barley water given before or after nursing has repeatedly proven sufficient to start the line upwards on the weight chart. This experience has shown conclusively how small a margin exists at times between insufficiency and sufficiency of the mammary secretion, and is worthy of serious consideration by those who have long been in the habit of jumping to the conclusion

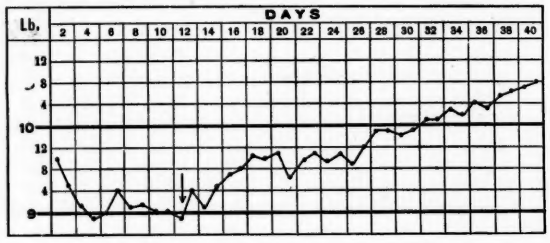

Fig. 3.—Daily weight chart of A. B., male. On eleventh day use of whey was begun, half an ounce being given after each nursing.

that because the infant did not gain there must necessarily be something seriously wrong with the breast-milk, and have consequently discarded the breast-milk entirely for the more hazardous use of exclusive bottle-feeding.

It has been my duty and the privilege to impress the folly of the latter course on the profession in several papers dealing with other phases of this subject; but while the doctrine of the conservation of maternal breast-milk has made considerable and gratifying progress, it is evident that it is not widely practiced and that its importance and its simplicity must be made clearer to the profession at large.

Knowing that the margin between insufficiency and sufficiency of the mother's milk is often a narrow one, and granting for the moment that suitable attention to the mother's diet does not promptly overcome the difficulty, I deem it often unwise while continuing these efforts to lose further precious time in awaiting the result, but would advise supplementing the maternal breast with small artificial feedings. It makes little difference whether this is done with the expectation that the secreting power of the maternal breasts will eventually be entirely sufficient for the infant or whether the probabilities are that only an important part of the infant's nourishment can be derived from the mother. The purpose at this time is to sustain the natural impetus to growth, increase the infant's weight, and so continue the development of the digestive system. Every half pound and pound of weight gained at this time increases the infant's chance of life.

While later in lactation it may be necessary to make this supplementary food take the place of the breast at one or more of the nursing periods, this is not the best course with the recently born infant. For these infants, where it is of supreme importance to maintain the frequent periodical suction of the infant at the breast in order to furnish the full natural stimulation to increased secretion, it is better to give small bottle feedings as soon as the baby has finished nursing. These *post-cibum*, or "p.c." feedings I prefer to designate as "complemental feedings," to distinguish them more readily from "supplementary feedings," inasmuch as the latter term has by long usage been applied to those bottle feedings which are given occasionally during the day to nursing infants, instead of the breast.

REQUISITES OF COMPLEMENTARY FEEDINGS

There are two chief requisites to be considered in giving complemental feedings, and these are: first, that they shall furnish food in such simple and assimilable form that they will not disturb the digestion of the infant; and, second, that they shall be so small in quantity as not to exceed, when added to the previously ingested breast-milk, the normal capacity of the stomach at this age. A transgression of either of these principles may readily defeat our purpose, which, as the term complemental implies, is simply to fill out the nutritional value and quantity of a partially deficient breast-milk.

For this purpose, complemental feedings after each nursing, of one-half ounce, or later one ounce, are usually sufficient for recently born infants. The increase to one ounce may be made when the growth and age of the infant indicate a larger stomach capacity, or earlier if the residue in the stools or the weight of the infant before and after nursing demonstrates a larger deficiency in the breast-milk.

MATERIALS FOR COMPLEMENTAL FEEDINGS

Materials for these small complemental feedings which have met the indications have been barley water, whey, or one of the proprietary combinations of maltose, dextrose, and dry condensed milk—the latter in the proportions of one-half of a fairly level teaspoonful to one-half ounce of boiled water. Of these, barley water is naturally limited in its usefulness to instances in which the deficiency of the breast-milk is not very great, and since its food value is small, it cannot be used alone for a very long period. It is, however, not only an aid to the proper digestion of certain over-rich breast-milks, but is also an excellent medium for the addition of cows' milk, if the subsequent progress of the case proves that with further failure of the breast-milk more food is necessary. Moreover, nursing infants so fed make the

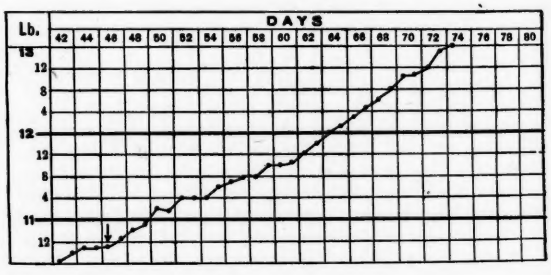

Fig. 4.—Daily weight chart of A. B. (Fig. 3), continued. Whey discontinued after forty-fifth day, the child being given the breast only.

transition from breast to bottle feeding without noticeable difficulty.

Whey and the maltose-dextrose-milk preparations have proved most useful in my hands, inaugurating prompt gains without attendant disturbances of digestion, and may be continued for considerable periods if the breast-milk holds its own. They may, not infrequently, be discontinued when it seems probable that the mother is able to furnish all the breast-milk needed, but if the nursing gradually fails they should, of course, be replaced by suitable modifications of fresh cows' milk,

since neither is suitable to maintain well-rounded development when given exclusively.

Not only is weaning often undertaken on mistaken and insufficient grounds, but the argument is frequently advanced that where success in breast-feeding appears to be doubtful, better results are obtained by beginning total artificial feeding soon after birth. This argument can obtain only when the artificial feeding of the infant is in the most expert hands, and the infant can remain under close supervision for a long period. With the vast majority of infants such supervision, for many reasons, is not possible. The pitfalls of unsupervised bottle-feeding are many and the danger of subnutrition or overfeeding great. The safer progress of the infant receiving breast-milk needs no argument. Breast-feeding, at least in competent part, can be established in many cases which at first seem rather unpromising, and any method which enables us to promote the normal growth of the infant by utilizing the physiological nutriment from the mothers' breasts while we are endeavoring to establish its permanency, is worth trying.

Since it will undoubtedly be admitted that to inaugurate a gain in weight in the newly-born infant is a long step toward its ultimate welfare and subsequent expectation of life, these measures are submitted for your consideration at this time.

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FEEDING OF FATS TO INFANTS AND THE DIFFICULTIES ENCOUNTERED *

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DETROIT

A great deal has been written during the last three years regarding the propriety of feeding fats to infants during the first year. When the percentage method of feeding was introduced all the teaching was on a plan of imitating very largely the percentages of fat protein and sugar in human milk. Many elaborate formulas were made and appeared in pediatric text-books showing how low and high percentages of each of these ingredients could be combined in a milk formula. In the more recent text-books fewer of these formulas appear. All physicians who are paying close attention to feeding young infants during the first year soon come to realize that the percentages of each food must be adjusted to the infant's digestive power rather than that the infant should be adjusted to some formula which may be thought suitable for an infant's dietary.

Experienced pediatrists realized that the first idea of imitating with cow's milk the proportions of fat protein and sugar in human milk would rarely give success. Consequently they found it necessary to give to each infant only that amount of each ingredient which the results, as shown by the infant's comfort and growth, were found to be suitable. Having once seen this necessity it soon became apparent that the amount of fat which could be fed to infants varied very much with their digestive power, their age and previous disturbances of the intestinal mucosa.

About three years ago occasional articles appeared in the pediatric journals reporting instances in which an infant could digest no fat and its dietary consequently was constructed entirely of protein and carbohydrates. These articles continue to appear occasionally. It is not my object to report more of these cases, but rather to consider the digestion of fat in its various proportions and the bad effects resulting from imperfect digestion of fats and the foods containing them. Consequently these foods must be limited or avoided entirely.

Some ten years ago, when trying to follow the teachings on percentage feeding, I encountered great difficulties in feeding infants with the 4 per cent. proportion advocated so much at that time, it being the proportion in human milk. Nearly all physicians had the same experience, yet some continue it still. A great wave of high percentage fat feeding was spread through the country by physicians generally, who read this teaching, but had little opportunity to practice it. The result was that all pediatrists found the parents soon thoroughly imbued with the necessity of feeding cream liberally to their infants on the ground that, as they thought, it was the best part of the milk, and they were also taught that the free use of it would overcome the constipated condition of the bowels so much to be contended with in hand-fed infants. This practice still continues among the laity, and a large part of the medical profession also, and is the source of a great deal of harm to the little ones, and in only rare cases is it beneficial from a cathartic point of view. On the contrary, in most infants it causes a very obstinate constipation.

Newly born infants generally digest fat more perfectly during the first few weeks of their lives than they do in later months. Very rarely will an infant digest perfectly more fat after the second month than it has done prior to that time. In my experience there are very few of them who will at any time digest more than 2 per cent. As I do no obstetrical work, I have only a very limited number of infants to feed continuously from birth. Most of my patients are infants who have been imperfectly nursed or improperly fed for several weeks before I see them. I find that these infants have almost invariably been fed with a too high percentage of fat and that either they were born with imperfect fat digesting power or very rapidly acquired it through overfeeding of it. My experience shows that over-feeding either fat, protein or sugar will very soon materially limit or entirely destroy the power to digest that food. In most of these cases which come to me I have been compelled for many years to reduce the fat to less than 1 per cent. and in very many of the cases to remove it entirely as far as it can be removed from milk by the gravity process. The amount left in gravity milk after many hours' exposure to ice or cold air of winter is less than one-half of 1 per cent. Even this amount causes difficulty to some infants, and I have found that the fat-free milk obtained by the separator process was preferable in some families to that obtained by the gravity process. This appears to me to be due to a lesser amount of fat in the separated milk and the better condition of the sugar in the newer milk from the separative process. I always find less difficulty in feeding fat to normal infants during the first months than to those who are older.

It is a serious mistake to increase the proportion of fat in food for its laxative effect. If a small increase of one-half of 1 per cent. does not promptly produce some softening effect on the stools no further increase should be made, as usually it decomposes in the bowel and poisons the child or forms crumbly, dry, soapy stools, which increase the constipation. It is very desirable that

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

each infant should receive the highest percentage of fat which it can digest properly. It is equally important that the fat should not be increased when there is the slightest evidence of its imperfect digestion. There is no food the digestion of which is so quickly destroyed as fat. There is also no food which will so completely check the growth and development of an infant when it is imperfectly digested. It requires less than one-half of 1 per cent. of imperfectly digested fat in an infant's dietary to prevent it from growing, to disturb its sleep, to destroy its color and to pave the way for marasmus and other forms of malnutrition.

The early and prompt recognition of fat indigestion is absolutely necessary for successful infant feeding. The physician must have clear ideas on this subject and have the strength of his convictions in order to overcome the strong desire of all mothers and nurses to feed cream too freely to their infants. Imperfect digestion of fat is shown by the variable and lessened appetite of the infant, by the gassy condition of the stomach and bowels, by the disturbed sleep, by the pale-yellow color of the skin, by the tendency to vomit from one-half to one hour after feeding, by the offensive odor of the stools, by their pale, greasy, rancid-butter, or dry, crumbly appearance, and by the failure of the infant to grow. Any one of these symptoms is enough evidence to the experienced pediatrist that the proportion of fat in the food is too high and that success demands its reduction or entire removal. In the young infant during the first few months this difficulty of fat feeding applies to the milk fat only. As infants become older and able to take other foods the proportions of fat which these other foods contain will usually govern their suitability in preparing the infantile dietary. In the nitrogenous line experience shows that the poor milk fat digestor cannot take the yolk of egg or the fat of oatmeal.

Where an infant's milk digestive power has been reduced through over-feeding of milk it often becomes necessary to substitute egg-albumen for this deficiency. Care must always be taken to commence with the albumen only and avoid the yolk, as the latter contains the fatty part of the egg. In feeding broths to such infants care must always be taken to remove all fat by cooling it before feeding, or, better still, to feed beef juice made by the cold-water process. The same difficulty applies to the use of cod-liver oil in most cases.

In selecting a suitable carbohydrate for these infants with defective fat digestive power, experience shows that oatmeal can rarely be fed, as it contains over 6 per cent. of fat. My experience is that the fat of oatmeal acts similarly on the child's digestive organs to the fat of milk. There is scarcely an infant who has lost the power to digest milk fat who can take any proportion of oatmeal.

Barley contains over 2 per cent. of fat. These infants do not show the same difficulty in digesting barley fat that they do with the oatmeal fat, but there is a large number of them who are unable to appropriate the fat of barley, and consequently fail when fed barley flour as a part of their dietary. These facts are very much to be regretted, as these two carbohydrates are very valuable and give excellent results in those infants who can digest them perfectly.

My experience is that these infants with feeble fat digesting power succeed better when fed rice starch than they do with any other. Rice contains less than one-half of 1 per cent. of fat, a low percentage of protein but a high and easily digested proportion of starch. After several years' experience in using the different forms of starches I find very few of these infants with weak or damaged digestive glands who cannot metabolize a proper proportion of rice in their daily dietary.

When an infant cannot appropriate fat it is compelled to exist and grow on two foods only—proteins and carbohydrates—when Nature designed three as necessary for growth and development. The result is that these infants always make slow progress during the first six to eight months of life. As their dietary must be made up of proteins and carbohydrates it is important to select those containing the least fat.

The most suitable proteins are found in nitrogenous foods, skimmed milk, white of egg and meat juice. In these the fat is separated with little difficulty; but when we look for a carbohydrate free from fat we instantly meet with difficulty, as Nature has so mingled fat with the protein and carbohydrate in all cereals that it is impossible of such separation as can be accomplished in the nitrogenous foods. The best we can do is to select that cereal which contains the least fat with no other objectionable food feature.

A look at the chemical composition of the cereals suitable for infant foods shows the following, according to the latest reliable analyses of Wiley, Bryant, Atwater and others:

	Proteins, per cent.	Fat, per cent.	Carbohydrates, per cent.	Crude fiber, per cent.
Wheat flour	14.	1.90	71.20	.....
Rye	12.25	1.50	71.75	2.10
Barley	11.00	2.25	69.55	3.85
Oats	11.73	6.04	55.43	10.83
Corn	10.00	4.25	71.75	1.75
Rice	7.50	0.40	78.80	0.40

These figures show that rice contains the least fat and largest amount of starch of all cereals. It also shows the smallest percentage of crude fiber. As delicate infants usually show a tendency to loose, soft stools, which are inimical to growth, this latter feature is important, as crude fiber increases the activity of the intestine and consequent watery stools. Experience shows that rice starch is the most easily digested of all starches and equally nutritious with the best of them.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. COTTON, DOUGLAS AND SOUTHWORTH

DR. JOHN ZAHORSKY, St. Louis: For many reasons the mother's milk is deemed inadequate and the mother is advised to give the infant one or two bottle feedings a day. Of course, it is convenient for the mother, but I think this giving of one or two bottles a day is the chief cause for producing a lack of breast-feeding. It gives a long interval in which the ducts of the breast become distended, resulting in a lessening of the activity. For several years I have insisted on having the mother nurse the baby every time, and if the mother's milk is deficient I order a complemental feeding after nursing. This conserves the normal maternal nursing better than supplemental feeding. If a breast is deficient in activity, we must keep up the stimulus to that breast.

We have been taught to give the new-born infant low proteid and comparatively high fat, and this method is frequently a success; but recently we have been trying to get the nutritive ratio much higher and the difficulty we encounter is due to the fact that an excess of casein will lead to soap stools, in that it diminishes the digestion of fat. Now, shall we try to give the young baby a low protein and

comparatively high fat percentage, or a high protein and a comparatively low percentage of fat? European authorities deny that there is such a thing as a casein stool. I am convinced that American investigators are correct, that rarely there is "curd" in the stool which has casein as a central nucleus. The most common coagula in stools are those of soaps or fatty acids.

DR. EFFA V. DAVIS, Chicago: I agree with the practical point brought out by Dr. Southworth; I have used this method several years. In the last few years I have discovered that it is in the afternoon and evening that the mother gives the least milk; frequently in the morning she will give a sufficient quantity. In such cases I compromise with the patient and ask her to give complemental feeding in the afternoon. That can be determined, if there is any doubt about it, by weighing the baby before and after nursing.

I want to compliment Dr. Cotton on some of the points brought out in his paper. It seems to me that civilization is hardly civilization if it deteriorates the race. Environment has much to do with development, and I hardly care to take the time to go into a discussion of monogamy, but there is a necessity for pointing out these facts in their influence on breast feeding. It is an easy matter to tell patients what to do, but the difficulty is to have these things done, for there are two members in the family, the husband and the wife. If Dr. Cotton is right then we must take into consideration the sexual relations in the result to the nursing infant, and what sexual relations have to do with the degeneration of the child. I try to convince my families that these things must be taken account of and that they should not be heedless in reproduction without realizing what it means. One Chicago physician illustrated the point that frequent reproduction does not necessarily imply higher intelligence or physical ability, by citing the conditions that exist among tame and wild ducks. The keen, clever, courageous wild duck reproduces its kind once in a season, but the tame duck, which procreates the year round, is a stupid, lumbering creature that can hardly fly over the garden wall.

DR. J. P. SEDGWICK, Minneapolis: I think that those of us who have tried complemental feeding have found it of great value. I think we can well use even more accurate methods, in difficult cases, *i. e.*, weigh the children before and after nursing and then supplement the breast milk with enough food to come somewhere near the caloric requirement. I do think that is a valuable check, although we cannot feed the child exactly according to its caloric need. The French have recently done much along this line and they state that if we want to keep up breast feeding we must keep up the evacuation of the breasts by the complemental method. If we wish to stop the flow of milk we should give supplemental feedings.

DR. JOHN LOVETT MORSE, Boston: I want to come to the rescue of supplemental feeding. There is no doubt that all Dr. Zahorsky has said is perfectly true, but there is another side to the question. I have found that the modern woman, with all her social and family duties, has to have more than two or two and a half hours at one time away from home, and I have found that she does better and can nurse her baby longer with a supplemental feeding than if she tries to nurse it every time.

In considering the disturbance of the digestion of fat in babies we must take into consideration whether we are dealing with a well baby or with a sick baby. The conditions are entirely different. We have heard a great deal from the Germans about the dangers of fat. In the last article I saw in a German magazine it was claimed, however, that the primary cause of disturbance was the carbohydrates and that the disturbance of digestion of fat was secondary.

DR. C. F. WAHRER, Fort Madison, Ia.: While I agree with Dr. Zahorsky, I want to sound a note of warning. It is so much easier to put some food in a bottle and turn it over to some member of the family to feed the baby while the woman is thus allowed to go about her various duties, that there is great temptation to use this method of feeding. In case the child dies, we are taught that administration of 20 grains of citrate of potash 3 times daily will aid in drying up the milk. Now careful observers at Johns Hopkins advise doing nothing at all, but let it dry up, and careful experiments have shown that if let alone thus the breasts dry up sooner. There is danger in supplemental feeding. Let us teach the mother to give the child all she can give and then, if necessary, give it complemental feeding. We have lazy mothers, incompetent mothers, and mothers who are bound up in their social duties, who are only too glad to turn the child over to the supplemental bottle. In rural districts many people bring up their babies on cows' milk and add half as much again of cream and the children do well. It is wonderful on what things some children will thrive and grow fat.

DR. JULES M. BRADY, St. Louis: Since the publication of Czerny and Keller's paper, I have made observations along this line and the clinical results prove conclusively that babies fed low fat percentage, particularly during the first two months, do far better than those fed on a comparatively high percentage of fat. The use of top milk in making dilutions has not been so successful in my hands as the use of skim milk, with its 0.5 per cent. of fat. As to the curds in infants stools the fat alone and proteid alone seem not responsible, both must be present. When fat-free acidified milk is given curds never occur, as the proteid being in the form of the lactate is not coagulable.

DR. C. G. KERLEY, New York: In almost every discussion on nursing and infant-feeding, the supposed indifference of the young mother, the so-called educated young mother, or the young mother in good society, whatever this may mean, is strenuously berated. By those who know little or nothing of New York City, all sorts of vice and corruption are supposed to abide in that city, but my observations of the mothers of New York City are very extensive, and I have found that the young mother who has had the best opportunities in life, makes the best mother, and when this young woman does not appreciate her duties in the matter of nursing and supervision of her children, it is usually the fault of her physicians and other advisers. Such a young woman has been educated sufficiently to appreciate scientific principles, and when it is explained to her that a baby's stomach is intended to digest mothers' milk and not cows' milk, and how the organ is adapted to human milk, or how human milk is made to fit the organ, no one will appreciate it more quickly and act on it more satisfactorily than the educated young mother; but the physician must be sufficiently well informed to explain this. Then this so-called high-strung mother will nurse her baby, or if she is unable to do it, she will see to its every want and fulfill her function in every respect to the best of her ability. It is difficult for me to understand why a young woman, with all the finer instincts of culture and education, should, on the advent of a child, be transformed into a creature who neglects her offspring, ranking her lower than the lower animals. In a very active work for twenty-two years among every possible class of mother, I cannot understand why I have not seen some of this supposed indifference and neglect.

If you wish one of these young mothers to discontinue her nursing function, then have her discontinue her former method of life. Tie her down to the baby and keep her there and very likely the nursing will be short-lived. She has been accustomed probably to an active girl's out-of-door life, as every girl should who has an opportunity. I have these mothers continue their activities, horseback riding, golf, afternoon teas, the theater, surf-bathing; in fact, one of the secrets of continuing a reasonably good milk-supply in a nursing mother, regardless of station, is to have her lead a happy and congenial life, in both a social and an occupational way. The diet practically should be the diet to which she was accustomed before she became a mother. One cannot take a high-class young mother and make a drudge and an animal out of her with success, just because she happens to have a baby. In order that she may be a successful mother, there will have to be one or two supplemental feedings a day. The statement that one bottle or two bottles a day, supplied the baby in order that the mother may be given more freedom, is a means of gradually curtailing the milk

supply or cutting short the nursing period is absolutely without foundation. On the contrary, by this method I am able to have the mother continue nursing longer by 2 or 3 months than when she is required to nurse the child at each feeding.

DR. A. C. COTTON, Chicago: I never listened to a discussion on infant-feeding where there was so much good sense manifest and so little foolishness. I don't know of anything that was overlooked except that perhaps there might have been a little more emphasis laid on the utilization of mother's milk, even if it be in extreme reduction. There should always be an effort made to stimulate the lacteal secretion; even though there be but two or three grams of it, it is worth saving. I think many of you will remember a paper presented by Dr. Wentworth, of Boston, on the exciters of secretion; it was very suggestive. It is fair to assume that there is something in mother's milk which acts as an exciter to the digestive functions that we cannot imitate in any artificial food. Even only a gram or two of mother's milk may be sufficient to promote digestion. That was the only point that I did not think received sufficient emphasis.

As to the digestion of fats. I presume we shall never come to an agreement. Dr. Morse hit it exactly on the head when he said enough was enough and too much was too much. No exact rule can ever be laid down for the individual baby. The differences between the fat of cows' milk and the fat of maternal milk are sufficient to prevent any comparison as to quantity ever being attempted.

DR. CHARLES DOUGLAS, Detroit: I use complemental or supplemental feeding according to the needs of the woman. I may use the supplemental method until the woman recovers her strength and is able to do the whole work herself. The point of stimulating the breast at intervals is good, but that stimulation may be once in 2 hours, or once in 4 hours, or once in 6 hours, and if the woman is worn out or exhausted, I think she does better with 4 or 6 hours' rest. In a strong woman I think two hours is better. But the woman herself usually argues that substituting every alternate meal is better for her. I think that as a regular practice it is not good, although I continually do it with women who have to get away from the house a few hours. Putting a young woman in the house and in charge of a baby when she is not educated along that line is a great tax, and if she can get a certain amount of rest it is a great advantage.

DR. T. S. SOUTHWORTH, New York: I employ supplementary feeding in many cases and should limit the use of complemental feedings to the first few weeks of life, while trying to get the child started on the upward road of growth and nutrition. I make the largest use of supplementary feedings later. I am glad Dr. Davis spoke of a fact that has not been mentioned in certain text-books, namely: that in the afternoon and evening the nursing mother is liable to have the least milk. Any one who follows this out can easily recognize the fact by weighing the children in the morning and in the afternoon and evening, both before and after nursing. It is a matter we should remember in giving nourishment to the mother in order to improve the breast milk and also with reference to the needs of the infant itself. When with deficient milk it is necessary to substitute bottle feedings in part for the breast, I am accustomed to have the mother nurse, particularly in the afternoon, each time from both breasts, thus maintaining the stimulation of the breasts. This is satisfactory in keeping up the flow of the breast milk so long as the number of bottles does not exceed the number of nursings. The mother nurses from both breasts at one nursing and gives the bottle at the next feeding. The only difficulty with Dr. Sedgwick's method, which would be excellent where one could weigh the child before and after nursing and adjust the amount accordingly, is that it would be too complicated to employ in very many cases.

Creosote in Bronchopneumonia.—Creosote is indicated in all stages of the disease. It should be prescribed in small doses several times a day. The tent made of bed-sheets hung around the bed and moistened with creosote, oil of eucalyptus and the like is of service, especially in tracheobronchitis.—H. B. Sheffield, in *Merck's Archives.*

YERSIN-ROUX SERUM IN THE TREATMENT OF PLAGUE *

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HONOLULU, T. H.

By permission of Dr. Ramus, chief quarantine officer of the Territory of Hawaii, I submit for consideration the following report on the treatment of three cases of plague, by Yersin-Roux serum.

The action of Yersin-Roux serum in the treatment of this disease has been so greatly a matter of dispute among those who have used it that this report is given in the hope of causing at least a revision of opinion among those who condemn it as useless.

My first experience in the treatment of plague by means of this serum, in 1907, caused me to regard its use most favorably. Unfortunately, the records of those cases, about 20 in number, were thought by me to be in the possession of the Territorial Board of Health, but cannot now be found. But the three cases I am about to report show admirably the chief points observed at that time, and I am enabled to use them as types illustrative of the action of the serum in cases of plague.

The three patients were Russian immigrants, all of the same family: the father aged 45, one daughter aged 15, and another daughter aged 8.

For the purpose of classification I have designated the older daughter as Case 1, the father as Case 2 and the younger daughter as Case 3.

CASE 1.—Russian girl, aged 15.

History.—I first saw this patient at the Immigration Station on June 7, 1910, at about 11 a. m. She had complained of headache and nausea the day before, with some fever, and her illness was attributed to the eating of preserved eggs, which her father had brought with him from Siberia. When I saw her, at the request and in consultation with Dr. Ramus, she was in bed, feeling too ill to be about. The facies at once impressed me as suggestive of plague: the wrinkled brow, half-closed eyes, and drooping mouth united in producing that "worried look" so frequently accompanying plague.

Examination.—A swelling was made out in the neck, under the angle of the jaw. The tumor was about the size and shape of a hen's egg—indurated, but uniformly smooth to the touch, and showing no evidence of its multiglandular structure. It was exceedingly painful on manipulation, although there was but little redness or edema of the skin. I have repeatedly noticed that the skin over a cervical bubo is not nearly so frequently affected with redness and edema as the skin over plague buboes in other situations. Temperature was 102 F., and in view of the fact that the girl's father was in a similar condition (but with a bubo in the right groin, in which a bacillus resembling that of plague had been found), a provisional diagnosis of plague was made. The gland was not punctured or incised for examination, however, as owing to the difficulty in securing healing, or even preventing sloughing, in buboes so treated, I have long since avoided tampering with a bubo in the cervical region, where the occurrence of sloughing can so easily endanger so many important structures.

Treatment.—The patient was removed to Quarantine Island, and on June 8 I was detailed by Dr. Ramus to take charge of her and the other patients. On this date her condition was much more serious, the hebetude having increased, and there being considerable pain in the chest on the left side. The percussion note over the whole of the front of the chest as far down as the cardiac dulness was diminished in reson-

* Read before the Hawaiian Territorial Medical Society, July, 1910.

ance, there was a shortening of the expiratory murmur, and some fine subcrepitant râles. The advisability of administering serum was decided on, and at 6 p. m. she received an injection of 30 c.c. The supplementary treatment consisted of a tablespoonful of whiskey in a glass of milk every 4 hours, alternating every two hours with 5 minims of tincture of digitalis and 1/40 grain of strychnin.

Course of Disease.—June 9: She slept well, and her temperature had fallen from 102.2 (the evening before) to 99.6 F., the pulse, however, remaining the same, 120, and the respiration increasing from 32 to 36. By evening, the temperature had risen to 103 F., and pulse was 128 and respiration 38. The progress of the involvement of the lungs was not much further than the day before, although the left apex was involved.

June 10: There was no marked fall, as occurs in the mornings in favorable cases, instead there was a fall of but two-tenths of a degree; pulse was 120, respiration 36. By evening the temperature had risen to a higher point than it had yet reached, 104 F.; pulse was 140, respiration 38. The patient became delirious about 8 p. m., muttering and picking at the bedclothes.

June 11: At 6 a. m., temperature was 105.6 F., and she died about 8 a. m.

Autopsy.—Post-mortem examination showed macroscopic evidences of plague. The enlarged cervical gland was removed; it was deeply infiltrated with a hemorrhagic exudate, being very dark-red in color, and extremely friable.

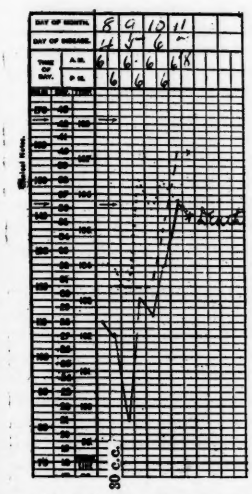


Chart 1.—Temperature chart in plague (Case 1), showing effect of serum, as described in text.

The pleura was adherent to both lungs by a fibrinous exudate, and so firmly attached that some difficulty was experienced in removal of the lungs.

The greater part of the lower lobe of the right lung was congested, but not entirely so, the evidences being of a lobular rather than a lobar pneumonia. The upper lobe of the left lung, while not so extensively involved, presented similar conditions. The pericardium was distended with bloody serum. The left ventricle of the heart was empty except for the presence of small chicken-fat clots, which condition also obtained in the right ventricle. The liver was congested, but presented no mottled areas on its surface, although evidences of fatty degeneration were evident on section. The spleen was greatly enlarged, deeply congested, and friable. The kidneys were enlarged, with undue prominence of the pyramids, which were congested. There were evidences of glomerular hemorrhage under the capsule, which stripped easily.

Bacteriologic Examination.—Smears from gland, lungs and spleen showed typical plague bacilli. A guinea-pig was inoculated with a piece of lung and another with a piece of spleen, both on June 11, 1910. Both pigs died on June 16, and from them the bacillus was recovered in pure culture.

During the progress of the disease the condition of the lungs did not present the characteristics of a plague pneumonia. There was not the rapid and progressive involvement of the lungs I have found to occur in cases of plague pneumonia not treated with serum, and in which, from the involvement of a single or few lobules with a pneumonia of the bronchopneumonic type, there is in 24 or 36 hours an involvement of a whole lung (or both lungs), with transition to the lobar form of pneumonia. This failure of transition I have noticed before in cases treated by serum.

In 1905 I read a paper in which I pointed out this rapid involvement and transition from a lobular to a lobar pneumonia in from 24 to 36 hours (with the characteristic sputum: "islands of bright red blood, about the size of a quarter, floating in a copious frothy liquid") as being, to me, diagnostic of plague pneumonia.

I advanced the theory that at first the pneumonia was due to an infection through the bronchial tubes, thus producing a bronchopneumonia; but a systemic infection soon supervenes and there is a transition from the lobular to the lobar type of pneumonia.

To me it is a very interesting fact that if serum is given in pneumonic plague, before the lobar form of pneumonia has developed, it frequently happens that the pneumonia retains its lobular type throughout the course of the disease. Furthermore, in fatal cases of bubonic plague (with involvement of the lungs) it is customary for the disease to lose its bubonic type, and to assume the characters of the pneumonic type—death resulting,

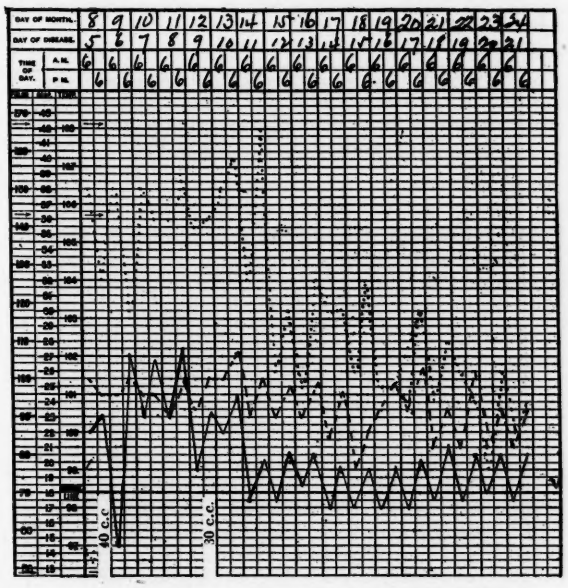


Chart 2.—Temperature chart in plague (Case 2).

as I suggested some years ago, as much from lack of lung tissue, to carry out its function, as from toxemia. When serum has been administered in these cases, however, it frequently happens that the disease, though ending fatally, retains its bubonic type, death resulting from toxemia. Both these occurrences seem to prove that the serum prevents a systemic infection of the lungs, by its action on the circulating blood.

That a patient with lung involvement should invariably die, in spite of the use of the serum, is not difficult of explanation, even when as much as 100 c.c. are administered. The lungs afford such an extensive and easy means of entrance to the circulation, for toxins, that an explanation is thus offered.

CASE 2.—Russian man, aged 45.

History.—Was first seen by me at the Japanese Hospital on June 7, where he had been taken from the Immigration Station. He presented the facies, and decubitus of bubonic plague—lying on the affected (the right) side, with the right thigh flexed on the abdomen.

Examination.—A bubo, about the size of a hen's egg, was found in the right groin, directly over the femoral muscles,

and involving the horizontal chain of glands. The bubo was very tender, and some redness and edema existed in the skin over it. There was slight hebetude and fever, 102 F. A history was given of his having been ill for several days, and of having had an epistaxis on the preceding day. The occurrence of epistaxis, with a febrile condition, has been seen by me as commonly in plague as in typhoid fever. The bubo had been aspirated twice for bacteriologic examination with negative results. The case, however, was so suggestively one of bubonic plague that Dr. Ramus and I decided it would be advisable to remove a portion of the affected gland for examination. This was done, and when taken to the laboratory, and a smear made, the specimen showed the presence of typical plague bacilli.

Experiments.—A portion was inoculated in a guinea-pig (1), which died on June 15, and the bacillus of plague was found in the spleen. A portion of the spleen of guinea-pig (1) was inoculated into a mongoos (1) and into a guinea-pig (2). The mongoos (1) died in 48 hours—on June 17—and the bacillus was recovered from its spleen. Guinea-pig (2) died on June 17, and the bacillus was recovered from its spleen. A portion of the spleen of guinea-pig (2) was inoculated in a mongoos, which died in about 8 hours, and the bacilli were recovered from its spleen.

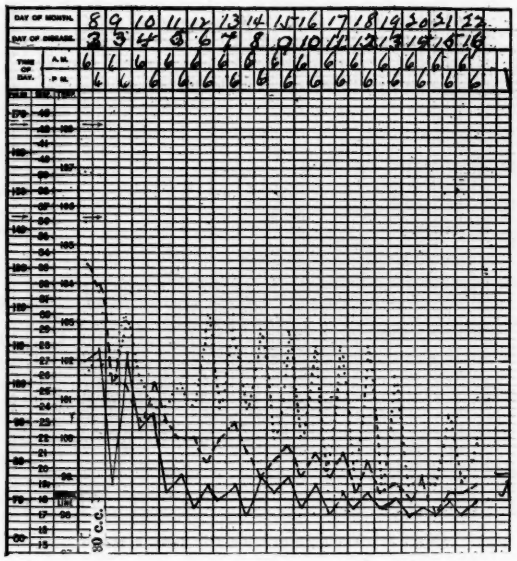


Chart 3.—Temperature chart in plague (Case 3).

Treatment.—When next seen by me, on June 8, the man's condition was considered serious—there was more restlessness and increasing hebetude, and it was deemed advisable to administer serum; 40 c.c. were injected at 6 p. m. At that time his temperature was 100.4 F., pulse 96, respiration 32.

Course of Disease.—June 9: He had a very good night, sleeping most of the time, and in the morning his temperature had fallen to 97 F., the pulse remaining at 96, but the respiration increasing to 38. There was, however, no involvement of the lung, as was feared from the increased rate of respiration. The same supplementary treatment was adopted in Case 2 as in Case 1. In the evening he had a temperature of 102 F. and pulse 98, the respiration falling from 36 to 30.

June 10: He had a good night, sleeping most of the time, but in the morning his temperature was still high, 102 F., and on the morning of June 11 the temperature was slightly higher, 102.2 F., pulse 90, respiration 36. Serum was ordered given on this date, but there was none on hand, and as it was a holiday none was procurable, so the serum was not given till the following day.

June 12: Although in the morning the temperature had fallen to 99 F., the pulse was bad, with slight dicrotism and still rapid, 94; respiration was 36, but no further involvement of the lungs was manifest. There was in addition increasing hebetude, so that the man's condition was alarming. Thirty c.c. of serum were given at 4:30 p. m.

June 13: While the temperature remained high (100.8 F.) the general condition was improved. The man was brighter, and had slept fairly well. The reaction to the serum did not take place till the succeeding morning (or about 36 hours after administration), a delay in its action which I have often observed.

June 14: The temperature fell to normal, pulse to 90, and the respiration from 42 on the night before to 26.

After this second crisis, the patient has steadily improved, and has had no adverse complications beyond some slight sloughing of the bubo.

CASE 3.—Russian girl, aged 8.

History.—This patient was seen by me at the Immigration Station, in consultation with Dr. Ramus, on June 7, 1910, at the same time as Case 1. She complained of headache and lassitude, sufficient to confine her to bed. Her temperature was 103.5 F., and she had only felt ill that morning.

Examination.—A small bulla, about the size of a ten-cent piece, was found on the inner side of the right ankle. Its characteristic smoky blue color, and surrounding areola of redness, left no question in my mind that it was the site of inoculation of plague by a flea or other agent. There was some tenderness over the glands in the right groin, although no definite bubo could be made out; simply a doughy thickening, such as occurs when a bubo is forming. Some serum was taken from the bulla and, as intimated, it was found to yield the plague bacilli as perfectly as if a pure culture.

Experiments.—A guinea-pig was inoculated from the serum, and it died on July 12, but gave in smears from glands (which were enlarged) and spleen only amorphous forms of the plague bacillus. A culture was made from the spleen, which on examination after 24 hours showed typical bipolar-staining bacilli. A second guinea-pig was inoculated with this culture on June 15 and it died on June 20, showing typical plague bacilli in specimens from the spleen.

Course of Disease.—When the patient was again seen by me on June 8, her temperature was 102 F., pulse 130, respiration 26. There was then a definite bubo in the right groin. There was increasing lassitude and headache, and she was given 30 c.c. of serum at 6 p. m.

June 9: She slept well, and her temperature had fallen to 98.8 F., pulse to 102, respiration 26. There was no involvement of the lungs. Supplementary treatment was carried out as in the other cases. In the evening her temperature again rose to 102 F., but the pulse remained at 102, respiration being 30.

June 10: There was a fall in temperature to 100.2 F., pulse 90, respiration 26. There was a slight rise that evening, but on the next morning (June 11) the temperature had fallen to 98.6 F., and thereafter continued, with remissions of half a degree, almost normal. She had no complications, beyond some pain in the bubo, but felt perfectly well after June 11. The bubo resolved without suppuration.

These three cases present so perfectly the three groups into which fall the vast majority of cases I have treated with serum, I believe their report to be of value to every physician liable to be called on to treat a case of plague.

Case 1 illustrates that group in which the serum fails to accomplish a cure; Case 2, that group in which a second injection is of value; Case 3, that group in which one injection is sufficient.

Furthermore, these three cases presented points which I considered valuable for another reason. Many authorities contend that the serum is of no value; that it is useless to administer it. It seems to me that a study of its effects on these three cases should modify such wholesale condemnation.

In the first place, it will be observed that each of these 3 cases was at a different stage of progress when the

serum was administered. In Case 1 the patient had been ill 4 or 5 days; in Case 2, about 2 days, and in Case 3, about 36 hours. Yet in each case the temperature was markedly lower on the morning after administration—falling about 3 degrees; and as each case was in a different stage of progress, this fall of temperature could not have been a pseudocrisis of the disease. Surely no one can contend that the fall was not produced by the serum; and if we have a remedy producing such a beneficial effect, is it not worthy of a trial in all cases unless the patient is moribund?

I have observed this fall in temperature in all cases in which the serum treatment has been adopted, although it may sometimes be delayed for 36 hours, even on a first administration, as on the second in Case 2.

By referring to Chart 1 it will be noticed that in Case 1, while there is a reaction to the serum, the temperature falling almost 3 degrees the morning after administration, at 6 p. m., however, there is a rise to a temperature almost a degree higher than before the serum was given; and on the second morning after a rise to 105.4 F. The rise on the second morning, after administration, has always heralded a fatal issue; the patient has failed to respond, in these cases, to as great a dose as 100 c.c. But I have never observed this failure in bubonic cases as early in their course as Case 2, unless the lungs have been involved.

In Case 2 (Chart 2) it will be noticed that while there is a rise in the evening temperatures for 3 days after administration from the temperature of the preceding morning, there is on each occasion a corresponding fall in the respective morning temperatures, so that no evening temperature greatly exceeds that on administration. But at no time did the morning temperature fall below 100 F., and, although it fell to 99 F. on the day of the second injection, yet the patient's general condition was bad. In fact, so serious was his condition that I have not the least doubt he would have died had serum not been given a second time.

I desire to again call attention to the fact that, in my opinion, the serum should be given a second time when the temperature is above 100 F. for three evenings after the first dose.

The looked-for fall after the second dose in Case 2 did not take place till 36 hours after the injection. A delay for this length of time, however, need not cause doubt as to the reaction occurring. I have repeatedly seen this time required even after a first dose.

Case 3 is an illustration of that group of cases most favorable for treatment by serum. In fact, the serum has acted similarly in all cases of uncomplicated bubonic plague which have been treated within 48 hours of its inception.

Usually on the morning after administration, but it may be delayed till the second morning, as already alluded to, there is a fall in the temperature to almost normal, in the evening a rise to almost its former height (in this case to 102 F.), the next morning a fall to a temperature about midway between the highest and lowest temperatures of the day before, followed by a slight rise (here 0.4 of a degree) in the evening, the temperature reaching within half a degree of normal on the third morning after injection, and with variations of but half a degree thereafter.

The serum used in these cases was that known as "dry serum," and was made by the Pasteur Institute. I believe that this is far superior to the liquid serum, and it may be that the liquid serum is responsible for the poor results reported by some observers. The dry serum is difficult to dissolve if one is not familiar with it. The main point is to have a test-tube with just sufficient water to moisten its sides—no more. The dry serum is dropped from the glass capsule, in which it comes, so that the particles of the serum, which adhere readily, form a layer of only one particle in thickness on the sides of the tube. Then sufficient water is added to make the necessary 10 c.c. of serum. Heat should never be employed, but as much time taken to cause the particles to dissolve by gently shaking as is necessary. A stirring rod should not be used unless the tube is held over another vessel to catch the serum, and preparations are made to filter broken glass from the solution.

In conclusion I wish to say that I do not offer these cases as an attempt at a clinical description of plague, a disease as variable in its aspects as the fabled god Proteus. Nor do I wish to be interpreted as considering myself as entitled to acceptance as some authorities who have reported unfavorably on the use of antipest serum.

All I have aimed to do is to present the effects of the serum in these three cases, supplemented by what observations of its benefit I have made in a limited use of the remedy, in the hope that in the event of anyone being called on to treat a case of plague he will at least give it a trial—with this assurance: you can do no harm with it, and you may do incalculable good.

NOTES ON TRIFACIAL NEURALGIA TREATED BY DEEP INJECTIONS*

V. P. BLAIR, M.D.
ST. LOUIS

For the privilege of observing and treating these cases I am indebted to the courtesy of Drs. Baker, Behrens, Bliss, Boislinière, Butler, Falk, Fry, Graves, Hauck, Hoge, Kennerly, and Remme.

It is important that the surgeon who intends to treat this form of neuralgia be able to diagnose the condition when present and to differentiate it from other painful affections, which might more or less closely counterfeit the genuine tic douloureux; otherwise he will miss appropriate cases or will throw obloquy on a valuable procedure by using it under inappropriate circumstances.

A very slight acquaintance with the symptoms of the disease will exclude the possibility of not recognizing it when present. The recognition of its counterfeits is in most cases quite as simple, but may be so difficult as ultimately to baffle the most skilful and painstaking neurologists.

There were certain common features present in all of the true trifacial tics that have come under my observation. Within certain limits the clinical picture in the individual cases varied considerably, but by excluding from operation cases that varied beyond these limits, I was able to eliminate all except one, possibly two, out of a number of cases of other conditions which have been referred to me. These cases will be mentioned later. The clinical features common to all of the cases were:

1. The neuralgia was confined to the distribution of one or more branches of the fifth nerve on the affected side, but it is my belief that the exact limits of the area to which this nerve is distributed varies slightly in individuals. This belief is based on the observation of

* Read before the St. Louis Medical Society, February, 1910.

the anesthesias that have resulted from the injections. In one case the pain crossed the bridge of the nose and in two cases it extended behind the ear, but in no case did the pain extend into areas unmistakably known to be entirely innervated from other sources.

2. The pain in all cases came on in a definite spot, from which it radiated in various directions over the area belonging to the fifth nerve.

3. Whether its first intimation was a severe pain or a paresthesia so slight as to be compared to the touch of a feather, and whether in the later stages the patients had but occasional twinges, or the pains followed each other so closely as to destroy all rest and drive the sufferer almost to desperation, the pain was always, in all stages of the disease, paroxysmal. If the first twinge was severe, the patient might have thought that he had been struck or stung, but, whether severe or almost imperceptible, in all but one case it lasted but a second or a few minutes and returned—that day or the next, or in a week, a month or a year—but it returned; and the subsequent history was that the intervals between pains

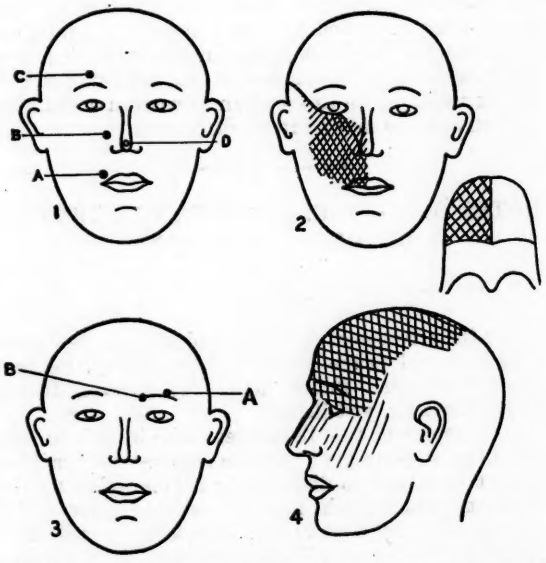


Fig. 1.—Case of woman aged 65. Pain came on at A in 1905 and at B some time in 1905 after the appearance of pain at A. Pain at A was relieved by an operation on the infra-orbital nerve in 1908. Pain came on at C in March, 1908. Touching the spot D will start pain in A and B.

Fig. 2.—Diagram of the anesthesia that resulted in subject of Figure 1 from a deep injection of the second division of the fifth nerve on May 13, 1907. In the lower right-hand corner the right half of the palate is shown. All pain, including that at C, was relieved.

Fig. 3.—Man, aged 53. Pain came on at A in 1884, and was somewhat relieved by cutting the supra-orbital nerve in May, 1908. Pain came on at B after the supra-orbital nerve was cut, in May, 1908. A painful spot appeared over the temporal branch of the orbital nerve.

Fig. 4.—Diagram of the anesthesia that resulted in subject of Figure 3 from the injection of the first and second division of the left fifth on April 26, 1909. The chart was made on April 27, 1909. It will be seen that a much more complete anesthesia was obtained over the first than over the second division. Note that partial anesthesia extended into the area of the nasal branch of the first division. There was some diplopia and dimness of vision after the operation, but it cleared up in a week.

shortened and the length and intensity of each twinge usually increased as time went on. In the exceptional case referred to the first paroxysm lasted four hours.

To the paroxysmal character was later added an irregular periodicity, which might be evidenced by the twinges being present or more frequent on alternate days or during indefinite stretches of time that might last for weeks or months, alternating with periods of comparative freedom.

4. When the pain returned it was in exactly the same spot, and, though it might radiate, the pain was always most sharp in the one certain place that could often be covered by the end of a lead-pencil. Later other such painful areas might develop, but they were in turn usually equally definite. The pain might come in the several spots at once, or in one or the other by turns, or play from one to the other. The pain might remain confined to the distribution of the branch over which it first appeared, or it might involve other branches or divisions successively.

5. The neuralgia was usually confined to one side, but in two of the cases the pain involved both fifth nerves, and in a third, there was a typical tic in the first division of the left fifth years after the Gasserian ganglion had been removed on the right side.

6. For the greater part the trunks and branches of the affected nerves were not tender, but in almost all cases there were spots over the distribution of the nerve, stimulation of which caused a twinge in the pain spots. The touch of a finger, a breath of cold air, the taking of food or liquids, in the mouth or swallowing, or a sudden movement, any or all of these might bring on the pain. One old lady could not let a bright light fall on the eye on the affected side without a sharp pain in a spot to the outer side of the ala of the nose. Another could not take sweet or sour things and a third suffered a supra-orbital pain whenever food touched the velum. It was pitiful to observe the extremes to which these patients would resort to avoid the stimuli that they knew would produce pain. Some of them would talk from or take food or drink in only one side of the mouth. One patient would go for days without swallowing even water, and others would not enter a room until sure all windows were closed. Some for months at a time would not wash one side of the face or brush the teeth.

7. In the older cases, though there was evidence of extreme pain during the attack, the patient seemed to have become used to it and seldom made outcry or demonstrative complaint.

8. Contrary to my previous idea that trifacial neuralgia was essentially a disease of middle or later life, it appeared in all decades from the second on. In one out of the twenty cases here considered it came on at 19, in one at 29, and one at 35 years, but in most instances it appeared between the ages of 45 and 60 years.

9. All previous forms of treatment with the exception of removal of that part of the Gasserian ganglion from which the affected branches sprung, had been but temporarily effectual.

In some cases, various forms of medicinal treatment had for a while controlled or modified the pain. Among these quinin was prominent in one case; in another, the continued use of castor oil, while in others the coal-tar sedatives were helpful.

In a large number of cases, one or a number of teeth had been extracted with but little benefit, and in most cases, with none. In five cases, excision of a portion of the affected nerve trunk had been resorted to with relief lasting from two weeks to eight months, but in all these pain returned with equal, or increase of, severity.

In four cases, injection of alcohol into the peripheral distribution of the nerves or at their superficial foramina of exit had given relief varying from a few weeks to nearly a year, and in one the removal of a piece of dead bone from the jaw had given relief for six months; but in all the pain eventually returned.

In sixteen cases a record was made of the time which had elapsed since the pain first came. In one it was two months, in one six months, in two it was two years, in one two and a half years, in one three years, in one four years, in one nine years, in one twelve years, in one fourteen years, in one fifteen years, in one seventeen years, in one twenty-five years. In one patient it had started twelve years previously on one side, and he had had it for one year on the other, while another had had it for fifteen years on one side and thirty on the other.

10. The pain might have come on, in the first place, with or without apparent cause, but removal of the apparent cause but temporarily controlled the pain. In one case it was associated with a necrosis of the mandible; in two, with pulp-stones, and in three cases with a dental caries. One patient gave a history of a doubtful local cause in a severe blow on the nose received three years previously. Some of the cases seemed to be associated with some more general disturbance. In one there was a marked auto-intoxication, in one malaria may have been the cause, and a third was in a rheumatic individual. Two of the cases were associated with a high blood-pressure. In the others no assignable cause could be found.

From the local findings and the clinical histories of these cases, the following conclusions would seem tenable in regard to the diagnosis:

If pain comes on suddenly in one spot on one branch of the fifth nerve; if it is paroxysmal and returns always in that spot, whether or not other spots on the same or other branches of the nerve are later involved; if subsequently it not only comes on spontaneously, but can be elicited by certain definite stimuli peculiar to the individual case; and if with the pain there are no primary anesthesias over the involved nerve area and no general tenderness of the trunks of the involved nerve, it is a genuine major trifacial neuralgia. This does not necessarily exclude all cases that do not present this exact picture.

In fifteen of the twenty cases of true tic on which this review is based, the patients were subjected to deep injections, the object being to reach one or more of the divisions of the fifth nerve just at the point where it emerged from the cranial cavity. The other five were not subjected to injection, partly for the reason that when I first took up this study I was rather timid about putting this procedure into operation and did so only when urged by the patient and the physician; and later, even since becoming convinced of the efficacy and comparative safety of the operation, I have encountered one case that was so mild that I did not encourage the patient to have the injection made, and in two cases that were rather recent, I suggested further trial of other measures. In six out of the fifteen that were subjected to injection, only the third division of one fifth nerve was injected. The second and third nerves were injected in three patients; the first and second were injected in four patients; the first alone was injected in one patient, and in one patient the second and third division on one side and the second on the other side were injected. The fluids injected varied, but in all alcohol was the basis. At first I used 70 per cent. alcohol, later 70 per cent. alcohol with cocain. Then I used the formula recommended by Dr. Patrick, of Chicago, but in the later cases I have used for the second and third division a mixture of 2 per cent. novocain, 6 per cent. chloroform, 22 per cent. water, 70 per cent. alcohol, and for the first division the same formula with but 2 per cent. chloroform. This reduction of chloroform is in deference to the optic nerve. The quantity of the fluid injected was about 2 c.c. for each nerve; in some cases a less amount sufficed. The locating of the nerve trunks depends on the ability to recognize with the point of the needle certain bony points on the base of the skull and the information furnished by the patient that the nerve is reached. To do this, I use a needle that is straight, strong and inflexible, and graduated in centimeters.

Before undertaking to perform the operation upon the patient, I made use of the opportunity I had of making experiments on the cadaver when working in the anatomic laboratories at the Washington University. These experiments consisted in seeking the nerve trunks by various routes before the students dissected the head, and injecting a little blue gelatin at the supposed site of the nerve and then in observing the accuracy of the injection later when the heads were dissected. These experiments were carried on for three dissecting terms. In the first two patients on whom I operated, in deference to precedent, I attempted to follow the French method of injecting from within the mouth. In this

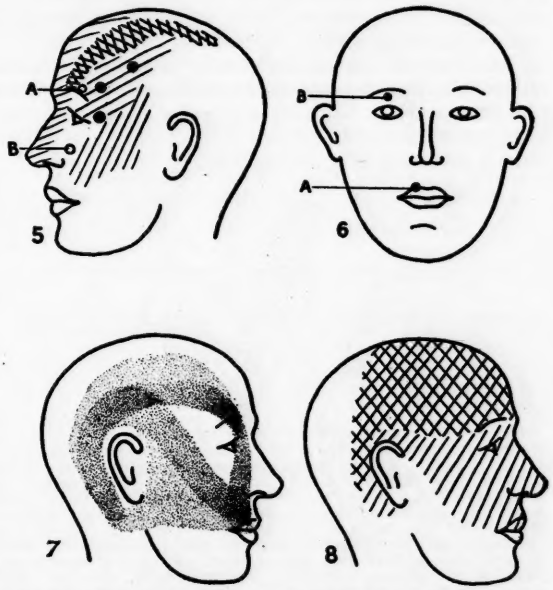


Fig. 5.—Diagram of the anesthesia in subject of Figures 3 and 4 on May 1, 1909, four days after the injection. In October, 1908, the whole of the frontal nerve had been removed back to the sphenoidal fissure, which probably accounts for the streak of absolute anesthesia that has persisted. The other anesthetic spots are probably due to some damage to the nerve fibers during injection. Spots A and B were tender, owing probably to the beginning of the return of protopathic sensibility. The pain in this case returned in one month, but not as severely as before operation. The anesthesia had not entirely disappeared six months after the injection.

Fig. 6.—Man, aged 68. Pain came on at A December, 1906. Since May, 1909, touching B causes exquisite pain.

Fig. 7.—Diagram of the direction and distance that the pain radiated from the pain spots in subject of Figure 6. The fact that the pain radiated behind the ear tended to cast some doubt on the diagnosis before the injection was made.

Fig. 8.—Diagram of the anesthesia in subject of Figures 6 and 7 resulting from a deep injection into the first and second division of the fifth nerve on July 2, 1909. From the anesthesia it will be seen that the area behind the ear is supplied in this case by the first division of the fifth nerve, which accounts for the fact that the pain radiated behind the ear in this case. This is not the average distribution.

procedure the needle enters to the outer side of the last molar, the external plate of the pterygoid process is followed until its junction with the under surface of the great wing of the sphenoid is encountered. By working the point of the needle backward, the foramen ovale, which gives exit to the third division, is reached. By

working forward, the sphenomaxillary fossa, the foramen rotunda and the sphenoidal fissure, which give exit to the second and first division, are found. On the first patient, who had an involvement of the third division, I succeeded, after three attempts made at intervals of a week, in getting a complete anesthesia over the distribution of the nerve and of giving complete relief from the pain. It is possible that in this case I reached the Gasserian ganglion.

In the second patient, who had an involvement of the second and third division, I succeeded in reaching the third division, but after two unsuccessful attempts at reaching the second, the patient left me in disgust and I then abandoned the intra-oral route for the much easier external route, which has the further advantage that the asepsis is surer.

In the external route the needle enters the cheek a little below the zygoma, and passing through the sigmoid notch of the mandible, the pterygoid process is encountered and its junction with the great wing of the sphenoid recognized. By working backward the third division is reached, and by working forward the second is found either in the sphenomaxillary fossa or as it courses around the back part of the maxilla.

The first division is injected by making the needle enter just below the external angular process of the frontal bone and by following along the malar maxillary

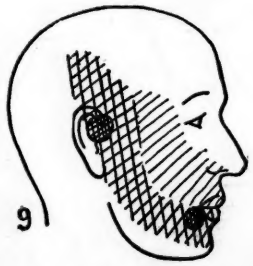


Fig. 9.—Diagram of anesthesia after injection in another case of many years' duration. The second division was injected on March 2, 1909, with almost total anesthesia resulting. The third division was injected March 24, 1909. It was charted on March 25, 1909. It will be seen that the anesthesia to pain and touch over the second division has considerably lessened between the time of injection and the time of charting. At the time of charting it was found that on the right side, the lingual and labial surfaces of the lower gum, the superior, inferior and lateral surfaces of the anterior two-thirds of the tongue, and the inner surface of the cheek below the occlusial line, were completely anesthetic to touch, pain and temperature, and sense of taste was lost in the anterior two-thirds of the right half of the tongue. The whole of this area was completely anesthetic to heat and cold. This anesthesia persists longer than does the anesthesia to touch and pain. The anesthesia had not entirely disappeared nine months after the injection. Pain had persisted for fifteen years before injection and had not returned two years after injection.

frontal suture for a distance of 3 or 3.5 cm., where the outer end of the sphenoid fissure is reached. It will be remembered that the optic foramen is above the inner end of this fissure. When the nerve is first touched by the needle, and when the first few drops of the fluid is injected, the pain is great, but no worse than an ordinary twinge of a severe neuralgia. When novocain is used in the injection fluid, severe pain usually very quickly ceases and the rest of the injection is very much less painful.

The effect of the successful injection was in all cases an immediate complete cessation of the pain, with or without a more or less complete anesthesia over the area of distribution of the nerve, and in most cases more or less paresthesia in the form of jerking or crawling sensation in the skin or mucous membrane. This paresthesia is rather persistent, wearing off in from six to nine months in most cases. It is not objected to at all by normal individuals, but I could well imagine that a neurotic person might magnify it into as great an evil as the original pain. This is one reason why I dislike to give injections in mild cases.

In summing up the late results, I shall divide the cases into two classes: First, those in which the injection was followed by a demonstrable anesthesia, and second, those in which it was followed only by a subjective feeling of numbness. There were twelve of the former and in eight of these the patients had no return of the pain whatsoever, when last heard from at periods of three weeks, three months, six months, seven months, eight months, ten months and three years. The latter patient, whom I know to have gone three years, had suffered intensely for nine years and had become a wanderer but has since settled down comfortably.

Of the four patients who had an anesthesia following the injection, but in whom the pain afterward returned, one had complete relief for a month when the pain returned with full intensity, but the paroxysms have not been nearly so frequent.

In one the pain returned in three weeks but, to quote the patient's own words, "it is not half so severe as it was" and not nearly so frequent. One has had very slight occasional returns, and the fourth, in whom I was permitted to inject only one of two painful trunks, had already learned the use of morphin; she has been injected by another surgeon, and now has a syringe of her own, but not for alcohol.

The anesthesias and the paresthesias gradually disappeared. There were three patients in whom a subjective numbness, but no demonstrable anesthesia, followed the injection. From two of these I have not received reports, but one of them, at least, I am sure would have returned for further treatment had she again suffered. The third patient reported to me ten months afterward with very slight occasional twinges, which caused her little inconvenience.

Of course this procedure cannot be absolutely free from danger, but it is probably less dangerous than a Gasserian ganglion operation, and, from some cases that have come to my notice, quite as successful as some of the latter operations have been.

The injection causes a real sufferer little extra pain or inconvenience and many will submit to it who have refused the Gasserian ganglion operation. At least it seems worthy of a trial before resorting to the latter. The only ill effects I have observed are the paresthesias and a soreness lasting for several days. In two cases there was diplopia and dimness of vision, lasting less than a week, and in one case there was an orbital hemorrhage, which had been diffused by the next day and never gave any subjective symptoms.

A study of the histories of these cases and of the results of the injections seems to warrant the conclusion that the more definitely a paroxysmal pain has been confined to certain spots, especially on the second and third divisions, the greater is the promise of relief from deep injections.

Before closing, I wish to cite two cases which are not included in the above series, but which give point to some of the conclusions:

CASE 1.—A man over 60 years of age suffered intensely with a pain in one spot on the tragus of the ear for four months. Since the pain came on it had been a steady ache with no paroxysms. The latter feature gave rise to doubt

whether or not it was a true tic, but I injected the third division in hopes of giving the patient relief and obtained a definite anesthesia, including the pain area, without giving any relief. The mouth was examined at this time, but no local cause for the pain was found. Six months later the patient returned with pain in the same spot, radiating to the top of the head. Examination of the mouth revealed an almost hidden ulcerating carcinoma, under the side of the tongue over the lingual nerve. Evidently the injection had not reached the part of the trunk from which the lingual springs.

CASE 2.—This patient was seen with Dr. Fry since these notes were written. A woman of 50 years had a paroxysmal neuralgia of six months' duration, which came on in the second division, but which very soon involved the first and third divisions very generally. There was subjective numbness, disturbances of taste, odd paresthesias, an inability to locate exactly the pain and tenderness over the nerve trunks. On account of the general distribution of the pain, the usual sensory disturbances and the inability of the patient to locate the pain definitely, a very guarded prognosis was given before an injection was made into the second and third divisions of the nerve. This injection was made eight days ago, and, in spite of a very definite anesthesia in the second division, the pain continues in the anesthetic area. Since then the paroxysms in the second and third divisions have been less severe, but now the patient is complaining of the paresthesias as much as she did of the original pains, and has some general pains in the abdomen.

The cases in this series were selected because of the opportunity there had been of studying each. Some of them were selected for study because of the very accurate and complete notes that were made on them before and after injection, and others because they illustrate special points. In the larger series that goes to make up my experience in this line nothing was observed that is at absolute variance with the observations or conclusions here set forth.

Metropolitan Building.

A REPORT OF THE TUBERCULOSIS SITUATION IN PENNSYLVANIA IN 1909

J. BYRON DEACON

Executive Secretary Pennsylvania Society for the Prevention of Tuberculosis

PHILADELPHIA

INTRODUCTION

The subject of this paper is discussed under two heads: first, the extent of tuberculosis in Pennsylvania in 1909, and second, the measures in operation in our state last year to control the disease. In reviewing the control measures in force in Pennsylvania last year, it should be borne in mind that the antituberculosis movement in general has been wholly experimental in nature. It has not proceeded from well-determined principles which have been applied from the first to the guidance of effort, but rather it has had historical development. It is impossible to make any categorical statement as to the relative value of preventive measures; the body of experience is not yet sufficiently large to warrant that. We have, however, as the result of ceaseless and varied experimentation, the knowledge of what has practically worked for the prophylaxis and cure of tuberculosis, and the general tendency of the movement is the only standard that can be applied to the measurement of local effort.

I. THE EXTENT OF TUBERCULOSIS IN PENNSYLVANIA IN 1909

There were 111,062 deaths from all causes in Pennsylvania last year. Of this number, 10,122, or 9 per cent., were from tuberculosis.

1. *Where the 1909 Deaths from Tuberculosis Occurred.*—A study of the tuberculosis death-rate in the various counties of our state in relation to the proportion of the inhabitants of each county living in cities of 8,000 or over, discovers the fact that those counties having the greatest proportion of urban population have the highest mortality from tuberculosis; while conversely, the rural counties as a rule have a much lower death-rate.

Potter, for example, is a sparsely settled, rural county. The death-rate from tuberculosis was less than 6 in 10,000. Westmoreland is another entirely rural county, but more thickly settled than Potter. The death-rate in Westmoreland was 9.5. In Berks and Erie counties, about evenly divided in character between urban and rural, the tuberculosis death-rates were respectively, 10.8 and 9.9. In all of these counties the rate is below the rate for the state; while Allegheny and Philadelphia counties with population, in the one case 79 per cent. and in the other all urban, sustained a mortality

TABLE 1.—TUBERCULOSIS DEATH-RATE IN PENNSYLVANIA

	Population	—All deaths— No.	%	T. B. deaths No.	%	T. B. deaths per 10,000
Total	7,137,315	111,062	100	10,122	100	14.1
Urban	3,387,401	54,265	47.6	5,676	56	16.6
Rural	3,749,914	56,797	52.4	4,446	44	11.6

TABLE 2.—DECLINE OF TUBERCULOSIS DEATH-RATE IN PENNSYLVANIA

Death-rate per 10,000	Pennsylvania All	Pennsylvania T.B.	New York All	New York T.B.	Massachusetts All	Massachusetts T.B.	Maryland All	Maryland T.B.
1906	165	15.5	170	20.0	165	18.3	157	20.4
1907	164	15.3	175	19.7	174	18.3	161	20.0
1908	157	14.3	162	19.4	165	17.2	154	19.7
1909	157	14.1	160	18.6	161	16.8	151	19.8
Rate of decline	8	1.4	10	1.4	4	1.5	6	.6

from tuberculosis of 14.8 and 22.1, both of which are above the state average.

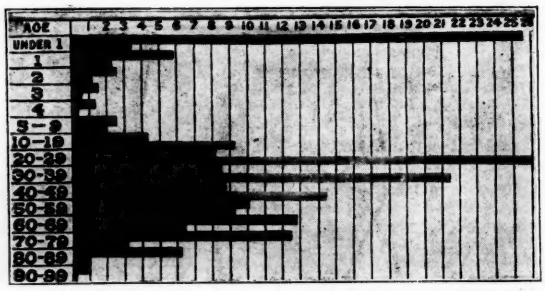
From the first table it will be seen that the state death-rate from tuberculosis in 1909 was 14.1; the urban 16.6 and the rural rate 11.6. Rural districts with over 52 per cent. of Pennsylvania's population had but 44 per cent. of the deaths from tuberculosis; and 56 per cent. of the deaths occurred in cities representing less than 48 per cent. of the state's population. The preponderance of deaths from tuberculosis in the urban parts of Pennsylvania is further emphasized by the state's two largest cities. Philadelphia and Pittsburg with 29 per cent. of the population show 40 per cent. of all tuberculosis deaths in 1909.

What we have found with respect to the greater death-rate from tuberculosis in Pennsylvania cities than in the rural districts is true of the United States generally and also of England, Scotland and other countries.

2. *At What Age Tuberculosis Killed.*—The diagram exhibits by age periods the number of deaths from tuberculosis in Pennsylvania in comparison with the number of deaths from all causes. The numerals at the top of the chart represent thousands in the case of total deaths, and hundreds for tuberculosis. Thus there were over 25,000 deaths from all causes under one year of age, and over 2,500 deaths from tuberculosis between the ages of 20 and 29. By far the greatest single period of general mortality was under one year of age;

from tuberculosis it was between the ages of 20 and 29; 64 per cent. of the deaths from tuberculosis took place between the ages of 20 and 50, while but 22 per cent. of the general mortality for the year occurred between these ages. Therefore, since tuberculosis in practically seven cases out of ten took human life at precisely that period when it represents economic surplus, it must be regarded as of all preventable diseases the one which entailed most serious economic waste. Applying Prof. Irving Fisher's estimate of $1,700 as the average value of the lives sacrificed by preventable diseases to the number of tuberculosis deaths in Pennsylvania last year, we find that our loss in potential earnings was $17,207,400.

3. *Is the Tuberculosis Death-Rate Declining in Pennsylvania?*—Unfortunately, statistics for our state are not available further back than 1906, but let us see what took place during the four years for which we have the necessary data. From Table 2 it will be seen that the general death-rate for Pennsylvania declined between 1906 and 1909 from 16.5 to 15.7. In other words, eight less persons per 10,000 died at the end than at the beginning of the four-year period. The decline from tuberculosis has been proportionately greater—as fourteen is to eight. But, it appears that substantially the same thing happened in New York,



Number of deaths from tuberculosis in comparison with number of deaths from all causes, at various ages. The solid black horizontal bars indicate deaths from all causes; the gray bars, deaths from tuberculosis. The numerals at the top represent thousands in the case of total deaths, and hundreds for tuberculosis.

Massachusetts and Maryland, in all of which states the general death-rate declined, while the decline from tuberculosis was somewhat greater, save in the case of Maryland, where the decrease from tuberculosis did not exceed the general decrease. Therefore, it would seem that whatever causes operated to produce the decline in Pennsylvania were also operative in the other states mentioned.

4. *Is It to be Supposed that the Decline in the Tuberculosis Death-Rate Has Been Caused by Human Effort, Directed Specifically Against the Disease?*—It would be rather absurd to attempt to draw conclusions from a study covering so brief a period as four years; but for the United States for a twenty-seven-year period, (1880–1907) the rate declined from 326.2 to 183.6 per 100,000 living, and for Massachusetts during a term of thirty-five years (prior to 1905) the decline was from 347 to 156; while for England and Wales the rate dropped in forty-six years from 348.7 to 172.2. Dr. Arthur Newsholme associates the declining death-rate from tuberculosis in England and also in Germany exclusively with the increase in facilities for segregating advanced cases. Dr. Robert Koch, too, held this view. In our country, however, provision for segregating the advanced cases, has been, until recently, so meager as to be almost *nil*. The declining death-rate from tuberculosis antedates by many years the spread of agencies for segregation; and since the establishment of such agencies the decline can not be said to have been greatly accelerated. It is therefore probably fair to conclude that only to a very limited extent has human effort to control tuberculosis actually operated to reduce the death-rate. This should be qualified, however, by the statement that the very marked reduction in the death-rate from tuberculosis in certain cities in the United States—notably in New York city—is probably due in no small degree to the facilities for segregating intensely infectious cases. In Philadelphia last year, 1,074 deaths—nearly one-third of all deaths from tuberculosis—occurred in institutions, and it is natural to suppose that the segregation, even though brief, had an important effect in eliminating infection.

5. *Morbidity from Tuberculosis.*—The amount of sickness as well as the number of deaths is an index to the extent of disease. What, then, was the morbidity from tuberculosis in Pennsylvania last year? Since tuberculous disease is one of which notification of the public health officials is required, it might be supposed that to learn the number of persons so afflicted, one had but to consult state or local morbidity statistics. Actually, however, this will not yield the desired information. It may be said at once that no report on morbidity statistics for Pennsylvania later than 1907 has as yet been issued. In 1906, however, 5,234 cases of tuberculous sickness were reported, and in 1907 6,109 cases, or an increase of 16 per cent. were reported; and yet in 1907 there were over 4,700 less cases reported than there were deaths from the disease. For that year, tuberculosis was the only communicable disease of which the cases reported numbered less than the deaths. The reasons advanced by the state registrar for this lamentable discrepancy, are: the protracted character of the disease, the tendency of the afflicted to dispense with medical service, the frequent shifting of habitation, the fear of restriction as regards habits and employment, and the failure of a large part of the medical profession to grasp the vital importance of registration. It needs but the simple statement—not proof—that without adequate registration all efforts to control tuberculosis are seriously lamed. In Philadelphia last year 5,288 cases of tuberculosis were reported. In Pittsburg the house-to-house canvass by the tuberculosis commission of about two-thirds of the city spotted nearly twice as many cases as were reported to the health authorities during the year. Williamsport had no registration earlier than 1908. Since then only 83 cases have been reported; but there were, a few months ago, 221 cases under treatment at State Dispensary, 33 in that city, and the health officer estimates that there are 500 living cases in the city.

On the commonly accepted supposition that for each death from tuberculosis there are at least three other persons sick from the disease, there were probably no less than 40,000 cases in Pennsylvania last year.

II. PENNSYLVANIA'S EQUIPMENT AGAINST TUBERCULOSIS

6. *Number of Beds in Pennsylvania in 1909 for the Treatment of Tuberculosis.*—Turning now to a review of the state's equipment against tuberculosis, it will be seen from Table 3, representing Pennsylvania tuberculosis hospitals and sanatoriums, that there were in 1909, nineteen such institutions, with a total bed capacity at

the beginning of the year of 1,736, which was increased by 258 beds before the year's close. Of the 1,994 beds, 756 were provided by the state at Mont Alto, and 490 by the cities of Philadelphia and Pittsburg. In ten philanthropic sanatoriums (by which is meant institutions either partially or wholly charitable in foundation, although patients may be pay or free) there were 592 beds. Five of these agencies are in or near Philadelphia, and one each in Pittsburg, Scranton, Oil City, Bradford and White Haven. Six sanatoriums conducted for profit had 156 beds. The number of patients treated by each class of institution and the average length of patients' stay is also shown. Three state hospitals for the insane provided an additional 131 beds.

The 100 increase in municipal beds was in Philadelphia, while the largest increase for the year was in the number of state beds, due to the expansion of the South Mountain Sanatorium at Mont Alto. The present size

TABLE 3.—PENNSYLVANIA TUBERCULOSIS HOSPITALS AND SANATORIUMS IN 1909

	No.	Capacity	Increase	Treated	Average stay (mos.)	%
State	1	598	158	1,089	4 1/2	38
Municipal	2	390	100	2,286	1 1/2	25
Philanthropic	10	592	...	1,725	4 1/4	29
Private	6	156	...	507	3 1/3	8
Total	19	1,736	258	5,607	3 2/5	100

TABLE 4.—BEDS FOR TUBERCULOSIS IN PENNSYLVANIA, NEW YORK, MASSACHUSETTS, OHIO AND INDIANA

	State		County		Municipal		Philanthropic and private		
	No.	%	No.	%	No.	%	No.	%	Total
Pennsylvania	756	38	.....	..	490	25	748	37	1,994
New York	350	5	1,016	15	2,781	40	2,776	40	6,923
Massachusetts	1,100	44	.....	..	587	23	778	33	2,465
Ohio	220	17	276	22	583	47	173	14	1,252
Indiana	100	32	40	13	52	16	120	39	312

TABLE 5.—ESTIMATED COST OF BUILDING AND MAINTAINING COUNTY HOSPITALS IN CERTAIN COUNTIES IN PENNSYLVANIA

County	Population	T. B. deaths	Beds needed	Estimated cost	Maintenance
Adams	35,305	47	25	$12,500	$11,406.25
Bucks	71,650	111	60	30,000	27,375.00
Cambria	135,606	157	80	40,000	36,500.00
Cameron, Elk and Potter	85,225	50	25	12,500	11,406.25
Delaware	110,826	195	100	50,000	45,650.00
Lackawanna *	111,265	104*	55	27,500	25,093.75
Westmoreland	198,059	190	100	50,000	45,650.00

* Exclusive of Scranton.

of Mont Alto, 756 beds, makes it the largest state tuberculosis sanatorium in the country. Massachusetts has 1,100 state beds but they are divided among five institutions, the largest of which has not more than 350 beds. In Connecticut the tuberculosis commission pointed out the inadvisability of establishing institutions of more than 150 beds each; and Prof. Karl Petren of Sweden regards a sanatorium of 100 beds as a large institution.

There were but 778 free beds for advanced cases in the state last year. Pennsylvania's total equipment in hospital and sanatorium beds for the tuberculous, represents a provision for institutional treatment of less than 20 per cent. of the number that died of the disease in 1909. New York had bed provision for over 42 per cent. of all 1909 deaths.

7. *Pennsylvania in Comparison with Other States in the Number of Beds for Tuberculous Patients.*—Table 4 is a comparison of the number of beds for tuberculosis in Pennsylvania with the number in New York, Massachusetts, Ohio and Indiana, together with a classification on a percentage basis of the proportion of the beds in each state, under state, county, municipal or philanthropic control. As has already been stated, Pennsylvania had 1,994 beds, and it will be seen that New York state had considerably more than three times that number. Massachusetts had 2,465, Ohio 1,252 and Indiana 312 beds. The figures exhibiting the proportion of each class of beds for the various states are of especial interest. It will be seen that 38 per cent. of Pennsylvania's beds were under state control, 25 per cent. were municipal beds, and the balance philanthropic or private. In New York only 5 per cent. were state beds. Three times that many beds were in county institutions, and the remainder were equally divided between municipal and philanthropic. The suburb equipment of New York City, of course, greatly swelled the state total of municipal and philanthropic beds. Massachusetts had both numerically and proportionately the largest number of state beds. The figures for Ohio and Indiana speak for themselves. It should be noticed in passing, however, that in both of these states, county beds furnish no inconsiderable proportion of the total equipment.

8. *Tuberculosis Dispensaries.*—The number of dispensaries for treating tuberculosis in operation in Pennsylvania in 1909, was 123—113 state dispensaries, and ten others. Eight of the state dispensaries were added, and two dispensaries of private foundation were closed during the year. Twelve of the dispensaries were in Philadelphia, and seven in Allegheny County. The remainder, all health department dispensaries, are scattered throughout the state, at least one in each county. In this respect, the dispensary situation in Pennsylvania is unique.

Last year 22,084 patients were treated—16,321 in the state dispensaries, and 5,763 in other dispensaries. Milk (1,402,000 quarts) and eggs (190,600 dozen) were given out through the state dispensaries, and 106,600 quarts of milk by all other dispensaries. There was a tendency on the part of the private dispensaries to diminish or entirely to eliminate the supply of milk and eggs to patients. The distribution on the part of the state dispensaries, on the other hand, was greatly in excess of 1908. There were 187 physicians and 110 nurses in the state dispensary service on Jan. 1, 1910.

On account of the dispensaries provided by the health department, Pennsylvania has a far greater number of dispensaries than any other state. New York state, including New York city, has but fifty, Massachusetts seventeen, and the number is even less in other states. Delaware is the only other state besides Pennsylvania having tuberculosis dispensaries under state control. Some consideration was given in Massachusetts to the advisability of establishing dispensaries under the control of the state, but the abandonment of the idea was strongly urged on the ground that the dispensary, essentially a local agency, should be under local control. The local health boards were held to be the proper agencies to conduct dispensaries. The special tuberculosis commission in Connecticut also held the dispensary to be without the sphere of state responsibility.

9. *Tuberculosis Classes.*—If my source of information is reliable, there were but two tuberculosis classes in Pennsylvania in 1909, both in Philadelphia. There were formerly four such classes, but two had been discontinued prior to last year. The Presbyterian Hospital class numbered 130 and the University of Pennsylvania class twenty members. Physicians were in charge

of both classes, a nurse aiding in the work of the former class, and a social worker from the University of Pennsylvania assisted in the university class work.

10. *Antituberculosis Associations.* — Of antituberculosis associations, there were besides the state society, fifteen local societies. Three more have been added since 1909 as a result of effort which had its beginning in that year. A variety of work was undertaken by these societies. The Berks County Tuberculosis Society founded the Neversink Mountain Sanatorium as a result of a remarkable campaign which culminated in the autumn of 1909. The Pittsburg League maintains a hospital, a dispensary, a farm for cured patients and patients with arrested tuberculosis, an open-air school and a research laboratory, besides doing educational work which will receive later mention. The Scranton Society maintains West Mountain Sanatorium, which cared for fifty-four cases last year. The Wyoming Valley society during the summer of 1909 cooperated in a better-milk campaign, to which is attributed the 41 per cent. reduction in infant mortality which vital statistics of Wilkes-Barre show took place last year.

Several of the societies supplemented the work of local dispensaries by furnishing food, clothing, rent, etc., to dispensary patients, or by paying the railroad fare of patients to sanatoriums. Efforts to abate the spitting nuisance also formed part of their activities.

Without critical intent, it may be said that if some of the local societies concentrated on preventive work, it would probably be productive of more lasting results than has some of the work in which they have engaged in the past.

During the closing months of 1909, the Christmas stamp sale directed by the state society yielded a fund of over $12,000. The major part of this was used locally as a stimulus to antituberculosis work.

11. *Educational Work.*—The antituberculosis propaganda should spread in three directions: to the public; to the patient; to the profession. Last year the educational work of Pennsylvania was directed particularly at the public, and more particularly at the child in the school. The thousands of patients of sanatoriums and dispensaries were, of course, instructed, both by printed literature and by oral advice from nurse and physician, and this educational process was undoubtedly of great preventive value.

The health department by lectures and its exhibit, which was constantly itinerant throughout the state, estimates that it reached 210,000 persons last year. Many of these were school children. The state antituberculosis society in addition to its work of organizing and directing local effort, distributed over 150,000 pieces of literature, treating of personal hygiene and preventive measures. Its exhibit and lectures reached 102,000 persons, 80,000 of whom were Philadelphia school children, and 7,000 factory employees. In cooperation with the national association, fortnightly news articles were supplied to over 250 Pennsylvania newspapers. In Pittsburg the Tuberculosis League not only provided lecturers for the schools, but issued booklets on tuberculosis, especially adapted to the respective needs of pupils and teachers.

Pennsylvania was surpassed only by New York in the amount of literature distributed, and the number of patients treated.

12. *Legislation.*—The following tuberculosis legislation was enacted last year: An act of May 11, 1909 to provide "For the further protection of the public health by prohibiting spitting in public places" was passed by the Pennsylvania legislature, after a propaganda which had been initiated by the Pennsylvania Society for the Prevention of Tuberculosis. A test of the law was subsequently made by the arrest of an offender. The conviction of the violator indicates that the law will be upheld by the courts.

In 1909 legislative appropriations subsidized five charitable tuberculosis agencies. The sum of $94,500 was devoted to this purpose, as against $366,500 to seven agencies in 1907. Two million dollars was appropriated to be used by the State Department of Health for two years' tuberculosis work, as against $1,000,000 in 1907. The appropriation in 1909 leaves the expenditure of the two million to the discretion of the commissioner of health, subject to the approval of the governor.

Many states passed important tuberculosis legislation in 1909. A hasty survey of a few representative acts will serve to indicate the attitude of other states in the administrative control of tuberculosis. New York, Ohio, Minnesota and Connecticut all passed laws in 1909 providing for the establishment of county hospitals for consumptives. The New York law authorizes boards of county superintendents to erect, equip and maintain county institutions, giving power to levy taxes for this purpose. Residents of the county suffering from tuberculosis, or of other counties (on compliance with certain conditions), are eligible for admittance. The cost of maintaining indigent patients is chargeable to the county. Wherever possible, patients or legally responsible relatives are required to pay, but not to exceed the average *per capita* cost of the patient's support. With minor differences the laws of Ohio and Minnesota are the same in effect. The segregation (in county infirmaries) of persons suffering from pulmonary tuberculosis, is mandatory in Ohio; and both states provide for counties uniting to establish such institutions. The principal difference in Connecticut is, that the state bears the cost of building and equipping, and shares in the cost of maintaining patients.

13. *Significant Features of the Year's Work.*—As has been said, $2,000,000 was appropriated in 1909 for tuberculosis work. In no other state has such an immense sum been set aside for tuberculosis purposes. The appropriation of $1,000,000 a year for tuberculosis was a momentous event in the history of the movement, and the expenditure of this fund to control the disease constitutes an experiment which is being watched with keen interest.

Of municipal activities the Pittsburg Tuberculosis League's effort to secure a city tuberculosis plan is perhaps the most significant. A municipal tuberculosis commission was appointed, and the result of the investigation of that body made clear the need of coordination of the work of Pittsburg's tuberculosis agencies; of the centralization of the work in the board of health; and of hospital provision for indigent cases. A house-to-house canvass of a large portion of the city discovered over 4,000 suspected cases, in 73 per cent. of which the patients were in need of aid or instruction. The subsequent effort to secure a $250,000 bond issue for a tuberculosis hospital unfortunately failed.

In Berks County the founding of the tuberculosis society, the raising of a fund of $18,000 and opening of the Neversink Mountain Sanatorium, caring for twenty-one patients, was all accomplished in a year. The institution is designed especially to care for Berks

County patients; all the beds are free, and support is derived solely from voluntary contributions, mostly small. This furnishes a striking example of what can be accomplished by a people aroused to a sense of responsibility for meeting local tuberculosis needs.

A recognition of this responsibility and an attempt to provide for local needs, was made on somewhat different lines in Luzerne County. The Wyoming Valley society initiated an agitation to provide a hospital for indigent tuberculous cases, through the directors of the central poor district, which includes the city of Wilkes-Barre. The movement was eagerly supported by the church, the press, the profession, trade organizations and tax-payers. A committee of the poor board reported in favor of the project. The directors, however, refused to act, declaring that they could find no law giving them the right to erect such an institution, and insisted on waiting to see if the next legislature would pass enabling legislation.

Whether or not counties in Pennsylvania have the right under existing legislation to erect and maintain hospitals for indigent consumptives, in view of the zealous effort on the part of residents of Luzerne County to secure such an institution, and of the general need throughout our state for segregation of advanced, indigent consumptives, is a matter of the utmost importance. It has therefore seemed worth while to obtain legal opinion regarding this, but in view of the limited space at my disposal, only the following bare conclusions can be quoted:

> With regard to the counties in general, therefore, as provided by the general law of the state, buildings can be erected for the maintenance and employment of the poor under the act of June 4, 1879, and hospitals to prevent the spread of infectious diseases (including tuberculous disease) may be erected by the commissioners of the county, by following the provisions and procedure of the Act of April 17, 1866, to the effect that where such hospitals are to be erected the construction thereof shall be recommended by the directors of the poor, a grand jury and the court of quarter sessions of the proper county.
>
> Throughout the state prior to the passage of the general acts above referred to, a number of poor districts, including that of Luzerne County were created by special act. In the case of any such district created prior to the passage of the general act of 1866, providing for the construction of hospitals, the special act is not repealed by the provisions of the general acts subsequently passed. It is the practice of the court to harmonize the provisions of the two, making the provisions of the general act apply to the conditions under the special act. It is, therefore, our opinion that in a case such as the central poor district of Luzerne County, created by the act of 1860, that the law provides for the erection of hospitals for the care of indigent consumptives. It is highly improbable that additional legislation would be made because general laws already exist.

At present any discussion of county hospitals would be incomplete without reference to the situation in New York state. In the autumn of 1909, following the enactment of the law permitting county supervisors to build hospitals for the care of consumptives, the state department of health and the state charities aid association instituted a campaign of education to show the need of such institutions. As a result of a half year's agitation, eight counties made appropriations, aggregating $233,000. Two county institutions are already receiving patients, and construction is under way in others; while fourteen county boards have appointed committees to study the subject. The campaign will speedily be carried into every county in the state.

The appropriations in New York state have been on the basis of a cost of $500 per bed for construction, and $1.25 per day, or $456.25 per patient per year for maintenance. Let us apply these figures to a few counties in our own state, using the number of deaths from tuberculosis last year as a basis. In Bucks County there were 111 deaths; but it is not to be supposed that all of this number required, or could have been persuaded to accept hospital care. Assuming that 111 deaths represent the annual average of deaths from tuberculosis for Bucks County, and that about one-half that number of patients could be induced to accept hospital care, then the number of beds needed would be approximately sixty, the first cost of the hospital would be $30,000 and a year's maintenance would cost $27,375. In some instances counties might unite to support a hospital. This possibility is illustrated on the table by Cameron, Elk and Potter counties. In others there are cities large enough to assume responsibility for municipal care, as for example, Scranton, in Lackawanna County.

III. CONCLUSION:—PENNSYLVANIA'S TUBERCULOSIS NEEDS

As a result of a survey of the tuberculosis situation in our state last year, certain apparent needs emerge. Among these, both for the state as a whole and for particular communities, is the need of coordination of effort on the part of all agencies engaged in antituberculosis work. At present, state, city and philanthropic agencies are working to a large extent as though on each devolved the whole responsibility for putting into effect every measure known to be efficacious in the control of the disease.

There should be tuberculosis planning, both state and city. To secure efficiency there must be a rational division and direction of labor. The lines of attack on tuberculosis should meet, but not cross.

Unquestionably the most pressing need in our state is for hospital provision for advanced cases, particularly those of indigent patients, since these constitute the greatest menace. This is essentially a local problem. It is not for the state to make such provision, since that would involve the transportation of the consumptive to a great distance from home, and not only is the transportation most detrimental to the patient, but many patients cannot be persuaded to leave home at all. Furthermore, the policy in Pennsylvania seems to be for the state to care for early cases. On the other hand, city hospitals would make no provision for rural cases. It would therefore seem that it is the function of the county to provide for such cases, and we have seen that not only has this been done in other states, but that there seems to be a growing sentiment in favor of such provision in certain parts of our own state. When Pennsylvania possesses such means for the isolation of its advanced consumptives, the most pressing need will have been met, and the best step taken to secure control of tuberculosis.

Hemolytic Test for Tuberculosis.—P. Bermbach calls attention to the fact that horse erythrocytes are dissolved by lecithin and tuberculous serum, but not by normal human serum. If serum from a tuberculous individual is added to a 1 per 10,000 solution of lecithin, the combined action of the two will dissolve horse erythrocytes in a concentration in which neither alone is able to induce hemolysis; normal serum has no such action. His communication on the subject was published in the *Zeitschrift für Tuberkulose.*

LOCALIZED EDEMA IN THE LUMBAR REGION FOLLOWING THE USE OF SALVARSAN (606)

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At present, while our knowledge of the effect of the Ehrlich-Hata preparation on man is still in the making, a careful tabulation of the various phenomena that occasionally develop after its administration is often of value and always of interest. Since the latter part of October, 1910, I have employed salvarsan in forty-two cases of syphilis and one case of chronic pemphigus. Up to this time, I have noted no untoward action in any instance. The method of administration employed has been that of Alt,[1] phenolphthalein being used as an indicator; and all of the injections have been made in the interscapular region.

In three instances an urticarial eruption, confined to the trunk, resulted, and in one case a scarlatiniform rash developed. These manifestations were quite evanescent, and completely disappeared in the course of eighteen or twenty-four hours. In two of my cases, however, a peculiar subcutaneous elevation, which I have not seen described by other writers, appeared in the lumbar region forty-eight hours after the administration of the drug. In each instance the tumor was oval in outline, and measured 4 by 10 cm., its long axis being parallel with that of the spine, and its lower border on a level with the top of the sacrum. The two were of the same height, about 2 cm. The lesions appeared suddenly, and attained their full size in five or six hours. They were painful, and very tender to the touch. At no time could fluctuation be obtained. They gradually disappeared, in the course of five or six days, leaving no trace. In each instance, the drug had been injected at a point 30 cm. or more from the tumor site, and there was no traceable connection between the needle-wounds and the elevated area.

The first case occurred in a married woman, housewife, aged 43. The disease was of six years' duration, and there were present numerous tubercular syphilids on the face and chest. The initial Wassermann reaction (the serum tests were made by Dr. W. K. Trimble) was decidedly positive, while the second, made ten days after the administration of 0.6 gm. of salvarsan, was negative. No albumin or casts could be found in the urine at any time. The temperature rose to 101.5 F. on the second day, and the patient suffered considerable pain.

I at first thought the lesion was one of "giant urticaria," but the symptoms and course were not those of Bannister's disease. The subjective symptoms were practically *nil*.

The second patient was a man, sales agent, aged 38. The affection had been acquired fifteen years previously, and there were no visible lesions. The first Wassermann test was positive, and the second, made nine days after the injection of the drug, was negative. In this instance also the patient suffered rather severely, and there was considerable fever (101 F.) forty-eight hours after the treatment was administered. Urinalyses made before, during and after the attack showed nothing abnormal.

In neither instance was there any tenderness over or on either side of the spine in the space intervening between the injection wounds and the tumor. The skin overlying the mass appeared normal. Permission to do a biopsy could not be obtained in either case.

I am at loss to account for the cause of these edematous tumors, unless we consider them as lesions of urticaria gigans. The explanation accepted for Herxheimer's phenomenon is hardly admissible here, unless there was present a subcutaneous luetic focus in the affected region prior to the use of the drug. The severity of the reaction that followed the administration of the agent in both cases, however, together with the brevity of the space intervening between the injection of the salvarsan and the occurrence of a negative serum test, are very suggestive of the results that sometimes follow the sudden liberation of large amounts of treponemal endotoxins.

610 Commerce Building.

1. Alt: München. med. Wchnschr., 1910, lvii, 1774.

THE REMOVAL OF SEWING-NEEDLES FROM SUBCUTANEOUS TISSUES

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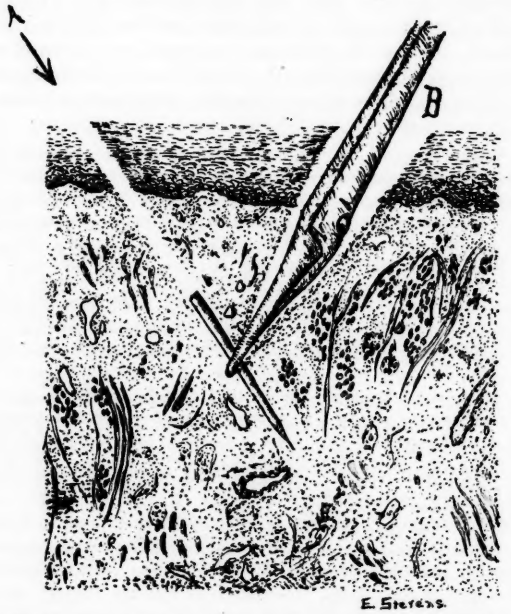
The removal of a sewing-needle, or other similar sharp-pointed foreign body, from the soft subcutaneous tissues becomes, at times, a more complicated procedure than the simple injury would seem to indicate. A local anesthetic is usually injected, and an incision made through the punctured wound with the hope of seeing



Method of removal of sewing-needle or other sharp-pointed foreign body from the tissues. A, long axis of needle; B, incision through which forceps is introduced to grasp the foreign body.

or feeling the broken end of the needle in the bottom of the incision. Often one is surprised at the difficulty encountered in the search for the needle. Even after the end of the needle is located with the finger, it is not always readily grasped with a forceps and pulled out.

The broken end of the needle is blunt and rough. In making the incision considerable pressure is brought to bear against this end of the needle, and the sharp point at the other end is pushed still farther ahead, if the tissues in front be easily penetrable. After the incision is made, a forceps is usually pushed down as far as possible in an effort to grasp the end of the needle. It may succeed. More often, however, it is found necessary to push the forceps repeatedly into the tissues in various directions, each time pulling up nothing but small

lumps of fat and a few connective tissue fibers, and each time pushing the needle in a little farther. The soft parts, which are raised with the forceps, and then let go when it is found that the bite did not contain the needle, also help to protect the broken end and to push it still deeper. The finger introduced to feel for the needle is apt to have the same effect.

The following procedure has served me well, and is now the one of choice in emergencies of this kind:

The position of the broken needle should first be determined. It may not be perpendicular to the skin, but may have taken a slanting course and lie nearer the surface on one side of the punctured wound than on the other. The history of the injury, together with careful palpation, will aid in this examination, but in the *x*-ray we have the most valuable adjunct in determining the position of the needle. After this is settled, a local anesthetic should be injected and an incision made some little distance from the point where the needle entered, and on that side toward which it traveled when entering. The distance may be one-half inch or more, depending on the depth and slant of the needle. The incision should be made so as to strike the long axis of the needle in a plane approaching as nearly as possible a right angle. The knife will thus cut down on the side of the needle, which is readily made out and grasped by means of a small forceps.

It is often impossible to extract the needle through this right-angled incision without danger of breaking it, or of causing anatomic injury. The needle should then be held firmly by the forceps while another small incision is made through the skin at the point where the needle entered. It will be found an easy matter to push the needle out through this opening by means of the forceps.

THE USE OF COLOPHONIUM IN DIFFERENTIATING THE EOSIN-METHYLENE-BLUE AND OTHER STAINS *

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One of the most important of the regressive staining methods used for general histological work is the eosin-methylene-blue method, hitherto only applicable to tissues fixed in Zenker's fixative. A successful stain by this method yields better results for cell-differentiation and the study of fine structures than any other single staining method. Its use has been limited because of the difficulty of securing constant results. Inquiries made in various laboratories, and the results of personal experience in a number of laboratories, have shown that the one uncertain step in the staining method is that of differentiation. It has been generally known that alcohols from different sources do not act alike when used for differentiation. The result of an attempt to determine the variable ingredient in the commercial 95 per cent. alcohol has yielded a method for differentiation which has given uniform results over a period of one year with a large number of alcohols.

The eosin-methylene-blue stain is fully described elsewhere.[1] In brief, the method is that of overstaining with eosin and then with alkaline methylene blue, followed by differentiation with 95 per cent. alcohol. The commonest failure is an imperfect eosin stain. Experiments made with absolute alcohol diluted with distilled water show that a pure alcohol abstracts the eosin too rapidly. The same results were obtained with freshly prepared methyl and ethyl alcohols furnished to the laboratory by a Canadian distillery. In the attempt to obtain an alcohol that would yield constant results, the addition of small quantities of organic and inorganic acids was tried. Similarly, minute traces of alkali were tried, and while it was found that the reaction of the alcohol had an appreciable effect, the results were not satisfactory. As most of the alcohol used in the United States has been kept in bond for a considerable time, it was thought that substances extracted from the wood might affect the behavior. Accordingly, the addition of colophonium in varying amounts was tried, and it was found that the presence of this substance furnished a certain method for obtaining any desired effect achievable by the eosin-methylene-blue stain. Furthermore, the addition of colophonium in large amounts has made the eosin-methylene-blue method applicable to tissues fixed either with formaldehyd solution or alcohol, and permits the use of commercial grades of methyl alcohol and methylated spirits in place of the more costly 95 per cent. ethyl alcohol used in differentiation. For these reasons it was decided to publish this apparently trivial laboratory "wrinkle."

At first, only carefully selected pale colophonium was used; later the darker variety has been used with ordinary methylated spirits, and the results are fully as satisfactory as those given by the more expensive materials. As far as could be learned from one year's experience, the permanency of the stain is not affected. The amount of colophonium necessary naturally varies with the length of time that the alcohol has been in the wood. For general tissue staining, the best results have been obtained by the addition of 0.75 to 1.5 per cent. of colophonium by weight; for special purposes the addition of larger amounts is necessary. In general, it may be stated that the greater the amount of colophonium in the alcohol, the more intense is the eosin stain, so that, by varying the amount of colophonium, we can attain any desired effect; a useful procedure, when one becomes interested in structures that stain faintly with one or the other stain.

For the differentiation of tissues fixed in formaldehyd solution or alcohol, the amount of colophonium required is much larger; 10 per cent. by weight has given the best results for general purposes. It is believed that the use of methylene blue and eosin method with tissues fixed with formaldehyd solution offers many advantages for the study of cells indifferently preserved by Zenker's fixative. As examples, in formaldehyd-fixed tissues, mast cells are brought out prominently and the contents of mucus-secreting cells are clearly defined, and in the early stage of secretion appear as deeply stained, bright blue granules. The only difference in the application of the stain to tissues fixed in formaldehyd solution and alcohol, is a slight reduction in the time that the methylene blue is allowed to act. As a rule, as soon as the sections have become deep blue in color, they are sufficiently stained.

Very good results have been obtained in staining Gram-negative bacteria in tissues fixed with formaldehyd solution. Ten per cent. of colophonium in acetone has given slightly better results than the corresponding alcoholic solution. It is possible to obtain deeply stained bacteria in tissue, such as the typhoid bacillus, and still preserve a fair nuclear stain in a deep eosin tissue-stain.

* From the Pathological Laboratory of the Montreal General Hospital.

1. Mallory and Wright: Pathological Technic, Edition 4, 1908.

In differentiating with the colophonium, alcoholic or acetone solutions, the sections may be transferred directly from water into the solution. The white precipitate that results rapidly dissolves. After the differentiation is completed the sections are washed rapidly in absolute alcohol, cleared in xylol and mounted in balsam. The differentiating solution may be used over and over again, as long as it remains clear, or until too much water has been carried into it by the sections. Some samples of colophonium give a cloudy solution in alcohol, and in this case it is necessary to allow the solution to settle and decant or filter.

Whether the action of the colophonium is a chemical or physical one has not been determined. It has been suggested that its action depends on the presence of organic peroxids,[2] but the results cannot be duplicated by the addition of hydrogen peroxid or by gum guaiacum, which is richer in peroxid than colophonium.

Another application of the colophonium method is in the differentiation of sections stained by Giemsa's method.[3] In place of the mixtures of xylol and acetone, which Giemsa gives for differentiation, a solution of colophonium and acetone may be used that enables us to control accurately the relative intensities of the red and blue elements. For general purposes, the addition of 20 per cent. of colophonium by weight gives the best results. After staining, the sections are transferred to the acetone-colophonium mixture, and when sufficiently differentiated, are washed rapidly with a 5 per cent. solution of xylol in acetone, cleared in xylol and mounted in cedarwood oil. The amount may be increased or decreased according to the effect desired. As in the other staining methods, the greater the amount of colophonium, the deeper the resulting eosin stain.

Still another use of colophonium and alcoholic mixtures is in the application of Gram's method for bacteria in tissues. The solution, in amounts between 5 and 10 per cent. by weight, seems to be a more energetic tissue decolorizer than pure alcohol, and yet leaves the bacteria stained a deep blue-black. It does not act so energetically as anilin oil, but gives more constant results.

240 Longwood Avenue.

AN IMPROVED TONSIL-KNIFE

G. L. KING, M.D., ALLIANCE, O.

In this day of development of the comparatively new operation of tonsillectomy, an instrument which simplifies the operation or hastens its completion, is of advantage to the profession.

I have devised for the purpose of quickly and more easily enucleating tonsils a knife of small size with both angles sharp, as shown in the illustration. Its small size assists very greatly in its manipulation within the mouth. It can be used with dispatch for dissecting in almost any direction and is usually the only knife I find necessary in preparing for the snare, and it can even be used with advantage to complete the enucleation of the tonsil either under local or general anesthesia.

It will be noticed that the distal end is patterned somewhat after Dr. Douglass' knife, with a probe point, but instead of this joining a straight handle, it joins at nearly a right angle, an equal cutting surface, which greatly facilitates its use in this difficult location.

An improved tonsil-knife.

2. Alsberg, Carl (personal communication): Bureau of Plant Industry, Washington, D. C.
3. Giemsa: Deutsch. med. Wchnschr., 1910, No. 12, p. 5507.

CEREBROSPINAL MENINGITIS

VENTRICULAR PUNCTURE WITH INJECTION OF SERUM

S. RAVAUD BENEDICT, M.D.
ATHENS, GA.

In reporting this case it is not my object to go into a full description of the condition which existed up to the time of the puncture of the ventricle, but a few words will give a clearer insight into the condition which existed before the operation.

History.—The patient, J. J. C., aged 16, was admitted, on Oct. 4, 1910, to St. Vincent's Hospital, New York, where I was then house surgeon, and a day or two later developed a typical case of cerebrospinal meningitis with classical symptoms. Examination of the spinal fluid corroborated the diagnosis. On admission the temperature was 105 F., pulse 90, respirations 26. Delirium developed in a few hours and continued up to the time of the operation, with short intermissions.

The temperature fluctuated between 101 and 104 F. until October 20, when I opened the skull. From the date of admission, October 4, to October 20, seventeen spinal punctures were done by Dr. Walters, house physician, to whom I am indebted for the above information. The first puncture showed the fluid to be cloudy with a marked amount of pus; on each succeeding aspiration the amount of fluid and pus diminished, until finally Dr. Walters was unable to obtain any fluid after several punctures on different days. In all, he removed one and three fourths pints of fluid and injected one pint of serum.

Operation.—At this point in the case I decided to go into the ventricle. After consulting a number of authorities I found that the previous operations were performed by using a small bore, going through the skin and skull without incision. As this necessitated working to some extent in the dark, I concluded that a regular trephine operation would be better, and therefore, after the usual precautions for opening the skull, I selected a point an inch and a quarter posterior to the external auditory meatus, on Reid's base line, and from this point I drew an imaginary line vertically, and took a point one and a quarter inches above my original point. I next made a horseshoe flap, opening down and trephined the skull, removing a small button one inch in diameter. With a large three-inch aspirating needle, as used in spinal punctures, I went through the dura, the needle being directed towards a point 3 inches above the opposite external auditory meatus. At a depth of two and a quarter inches I aspirated about half an ounce of very cloudy cerebral fluid, which, on examination, showed a large number of pus cells. In all I removed an ounce and a half of fluid and injected 20 c.c. of antimeningitic serum, closing the wound without drainage.

Postoperative History.—The patient's condition showed marked improvement and when asked how he felt, he answered

very distinctly, "I feel a hundred per cent. better." His speech was more coherent and he was much quieter than before the operation. His pulse, which was 140, dropped to 120; his temperature showing a marked reaction, rising from 101 to 103 F. in a few hours, but on the following day it had dropped to 100.4 F., the lowest for some days. The improvement was only temporary, for on the twenty-fourth, four days later, he became markedly worse and died with a temperature of 104.6.

Autopsy.—An hour after death an autopsy was performed by the hospital pathologist and an interesting condition was found. The right ventricle, into which I had injected the serum, was in a fairly good condition and contained only a slight amount of cerebral fluid, which was practically clear. The ependyma showed only a very faint trace of a previous inflammatory condition, proving conclusively that the serum had worked wonders, but, sad to relate, the left ventricle told a different story. It was filled with a seropurulent fluid of the same appearance as that which I had removed at the time of the operation; the ependyma was inflamed and covered with a thick purulent exudate.

At the time of the operation, little did I realize my mistake, so forcibly brought before me later, for had I trephined the other side of the skull also, the latter part of this report might never have been written. I learned the lesson well, and, if another opportunity offers, I shall not overlook the other ventricle, and I trust that some who have read this paper may profit by this mistake.

SYMPTOMS SUGGESTIVE OF BRAIN TUMOR RELIEVED BY THE CORRECTION OF A REFRACTIVE ERROR

THEODORE DILLER, M.D.
Clinical Professor of Neurology, University of Pittsburg
PITTSBURG

The case is that of a man 50 years of age, a railroader by occupation, who consulted me Aug. 24, 1909. During the last two and a half years he had suffered four severe accidents on the railroad. In one of these accidents the left side of the head was severely injured, but he apparently recovered from all of these accidents.

The symptoms for which the patient consulted me dated back three months and consisted of headache and dizziness of increasing frequency and severity. The headaches were located chiefly in the occipital region, although they were occasionally frontal. There was a good deal of pain in the temples. On a number of occasions the patient vomited before breakfast, and this vomiting did not seem to stand in any relationship to food ingested. He complained of double vision, and stated that within the last three months his sight had steadily failed, and that now he could read only headlines in the newspaper and count fingers.

The above symptoms, related here in the briefest manner, at once suggested a brain tumor. When I sent the patient to see Dr. J. E. Willetts I fully expected that he would report the presence of an optic neuritis; but on the contrary he found the eye-grounds perfectly normal and reported a marked refractive error.

I consequently turned the patient over to Dr. Willetts that he might go over his eyes and correct the refractive error. This he did and reported to me the following:

"Examination of patient's eye-grounds shows a normal fundus. There is no optic neuritis or other pathologic changes. He has a refractive error which I think is responsible for the symptoms presented, and have prescribed the following lenses for constant wear:

"R+2.00D=½° Pr. B. Out=20/20
L+2.50, D=20/20"

Oct. 23, 1909 (two months later) the patient reported to me that he was then free from headache and had been for a month past. He stated, indeed, that he was greatly relieved from the time the "drops" (belladonna) were put in his eyes. He has had no further attacks of vomiting. He looks brighter and better in every way. In short, it would appear as though his symptoms were due to the refractive error and had been entirely relieved by the glasses.

Westinghouse Building.

SOME "DON'TS" IN THE USE OF SALVARSAN

JAY F. SCHAMBERG, M.D., AND NATE GINSBURG, M.D.
PHILADELPHIA

The most recent advice from authoritative sources as well as our own experience, favors, in general, the employment of salvarsan by intravenous injection.

1. Don't use salvarsan in myocarditis, in advanced cases of tabes dorsalis and general paresis, in nerve syphilis affecting vital centers, in grave kidney disease, in cachectic and debilitated persons (unless the condition is due to syphilis), in aneurysm, in optic neuritis, and in persons with lesions (such as gastric ulcer) in whom increased blood-pressure may produce hemorrhage.

2. Don't use intravenous injections of salvarsan until you have fully qualified yourself and possess a detailed knowledge of the technic. Deaths have occurred and more will occur from unskilful administration.

3. In the preparation of the drug for intravenous use, don't use a solution made with common salt or undistilled water (such as is often supplied in hospitals), but use a specially prepared sterile physiologic salt solution made with chemically pure sodium chlorid; otherwise you may find it impossible to obtain a clear solution.

4. Don't under any circumstance inject into the veins a solution which is not *perfectly clear;* a flocculent or cloudy liquid may produce alarming symptoms of collapse or even death.

5. Don't use a solution any more alkaline than is absolutely necessary to secure a clear solution.

6. Don't inject the salvarsan into the veins without previously running in physiologic salt solution; if the needle is not in the vein you will infiltrate the surrounding tissue with the salvarsan solution and cause subsequent inflammation and unnecessary pain.

7. Don't infuse the solution into the vein too rapidly; it is best to have a needle of such a caliber as will require 8 minutes to introduce 200 c.c. of fluid. With the gravity apparatus, the rapidity of inflow can also be governed by the height of the receptacle.

8. Don't infuse a cold solution; the liquid should be about the temperature of the blood.

9. Don't use "glass pearls" in the mixing jar as is often recommended: we have found that minute particles of glass chip off which might cause embolism.

10. Don't use a routine dosage of the drug; the dose should be gaged according to the weight of the patient and the character of the condition to be treated.

11. Don't employ intravenous injections in your office or in a dispensary. The patient should be treated in a hospital and put to bed and carefully observed for a period of not less than three days.

12. Don't persist in the intravenous injection if the patient should show signs of collapse during the administration, but stop at once.

1922 Spruce Street—340 South Fifteenth Street.

Therapeutics

TRICHINOSIS

It is just half a century since Zenker, at the post-mortem examination of a girl, who had been admitted to the Dresden Hospital, on Jan. 12, 1860, supposed to be suffering with typhoid fever, found the muscles full of living trichinæ. This was the beginning of the pathology of the disease in the human race. Tiedeman, in 1822, noted the presence of white, stony concretions in the muscles, and other observers subsequently described similar concretions, and Owen showed that they contained a worm, coiled up inside, to which he gave the name of *Trichina spiralis*, but Zenker was the first to examine a patient who had died from an acute attack of the disease. He found living trichinæ in the muscles, and trichinæ in the flesh of the pig, of which she had probably eaten two weeks before and which had apparently caused a similar, but not fatal, illness in three other persons.

To-day this disease is occasionally diagnosed, and probably many mild cases are never detected. Every physician should be acquainted with the symptoms in order that, if a patient comes to him suffering from the disease, he may not overlook it, and leave it for some other physician or a consultant to detect.

The symptoms which are usually noted in a case of trichinosis of ordinary severity are loss of appetite, malaise, headache, fever, nausea or vomiting, diarrhea, tenderness of the epigastrium, cramps in the abdomen and limbs, great prostration, swelling and soreness of the muscles and indisposition to move them, increased rapidity of respiration, swelling of the eyelids and feet, and sometimes of the knees, elbows, and ankles.

The two diseases for which it is most frequently mistaken are typhoid fever and articular rheumatism. The headache, fever, and diarrhea naturally suggest typhoid. The height and duration of the fever often make the resemblance to typhoid very striking; but the muscular cramps, the vomiting, the prostration and muscular weakness, out of proportion to the fever, the slight mental impairment, also not so great as is usually seen in typhoid with an equal degree of fever, the muscular soreness, and the edema of the feet and eyelids, when present, will generally enable the distinction between the two diseases to be made with reasonable certainty. If the disease is typhoid, the Widal reaction should soon be in evidence. In the cases with considerable fever, and in which swelling of the joints and soreness of the muscles are conspicuous, the trouble is sometimes mistaken for either articular or muscular (myalgia) rheumatism. When this occurs the limited number of joints affected, the edema of the eyelids, if present, the rapid respiration, and the absence of improvement under the use of the salicylates are generally sufficient to disprove the diagnosis of rheumatism.

When the pains in the limbs are troublesome and there is considerable weakness, without high fever, it might be suspected that multiple neuritis is present, but in trichinosis it can generally be determined that the soreness and pain are localized in the muscles rather than in the nerves, that the impairment of motion is due to the painfulness of voluntary muscular contractions rather than to paralysis. Also the headache, dyspnea, and edema of the eyelids will generally enable one to exclude disease of the nerves.

If vomiting, diarrhea, and muscular cramps in the abdomen and limbs are present, the disease may be mistaken for cholera morbus or other forms of cholera, or for ptomain poisoning, but the continuous fever, the headache, the muscular soreness, the continued prostration, and the edema will soon lead to a change of diagnosis. When the presence of trichinosis is suspected but cannot be definitely determined from the subjective and objective symptoms observable, microscopic examination of the blood will usually afford important aid in deciding the question. The blood examination, as a rule, shows a distinct leukocytosis, which, however, is not so great as is often seen in purulent infections and pneumonia. But the most striking feature observed in the blood is the marked eosinophilia which was pointed out by W. S. Thayer and Thomas R. Brown, in 1897, and which has since proved to be of great diagnostic importance. The percentage of eosinophils was found to be more than 20 in over half of William Gilman Thompson's series of fifty-two cases, and has been found to be above 80 per cent. in some cases. Thompson (*Am. Jour. Med. Sc.*, August, 1910) sums up the conditions that may cause an increase in the eosinophils as follows: A moderate increase above the normal of from 1 to 4 per cent. in adults, has been observed in pneumonia before the crisis, in some skin diseases, particularly dermatitis exfoliativa, dermatitis herpetiformis, pemphigus, psoriasis, prurigo, eczema and leprosy, in other intestinal parasitic affections, such as tapeworms, roundworms, and uncinariasis, in bronchial asthma, and sometimes after large doses of camphor, iodid of potassium, and salicylate of sodium. But in none of these conditions is it usual to see so large a degree of eosinophilia as in trichinosis and, furthermore, none of these conditions is likely to be mistaken for that disease.

Rarely, if ever, can the trichinæ be found in the stools or in the blood of patients who have the disease. But the crucial test, when it is practicable to make it, is the finding of the trichinæ in a fragment of the patient's muscular tissue removed by a harpoon designed for this purpose.

The symptoms usually appear about two weeks after the ingestion of the infected meat; sometimes a few days earlier, occasionally a week later. This corresponds to the time consumed in the development of the trichinæ in the intestine, the production of a new generation, and their migration to the muscles.

The fever may rise as high as 104 F., or even higher, and subsides gradually. It usually lasts for several weeks, but may disappear in less than one week, and has been known to persist for two weeks. After it has entirely disappeared it may return again, simulating the relapse of typhoid fever.

The increased rapidity of the respiration is probably due to involvement of the diaphragm by the trichinæ. Besides the edema of the eyelids, which is seen in about one-fourth of the cases, other ocular symptoms are not uncommon. Among them may be mentioned pain and burning in the eyes, distinct from the headache, corneal hemorrhage, diplopia, tenderness of the eyeball on pressure, pain on moving the eye, and photophobia.

Death is not a common result of the disease, and recovery is attended with calcareous degeneration of the capsule, which may be followed by fatty degeneration. Loss of flesh accompanies the disease, and anemia is a striking sequel.

The most important treatment is prophylactic. The disease is contracted by eating pork which contains the trichinæ encysted in the muscular fibers. As these are digested the worms are set free in the intestinal canal, where reproduction takes place with wonderful rapidity. The new worms pass from the intestine through and into the various tissues of the body, and finally lodge in the muscles, where they ultimately become encapsulated, although they may retain life for many years.

Uncooked pork, sausage, bacon, and ham are the principal things to be avoided, if one desires to escape trichinosis. The last few years have witnessed such an agitation over tuberculosis that government inspection has been largely directed toward the detection of this disease in the meat used for food, but there is no systematic inspection of pork intended for domestic consumption for the presence of trichinæ, although it is estimated that 2 per cent. of hogs are infected with this parasite. This would indicate the desirability of government inspection of all pork intended for domestic use as well as that for export, and gives great importance to the question of how the trichinæ can be certainly destroyed. Salting and hot smoking will generally kill them, but the only reliable prophylactic procedure is thorough cooking. It has been stated that a temperature of 140 F. will destroy the trichinæ, but, on the other hand, it has been found that they may survive a temperature of 180 F. The practice of the large packing houses is said to be to cook hams at a temperature of from 170 F. to 212 F., a general rule being to continue the cooking for thirty-eight minutes for each pound of weight of the ham. Perfect safety undoubtedly demands that they should be boiled at a temperature of 212 F. for several hours.

When infection has occurred and has been detected early, the first step in treatment is thorough evacuation of the bowels so as to remove any of the worms which may still remain in the intestines, for the trichina reaches its full development after it has been in the intestine for three days, and may continue to bring forth young during a life of some weeks. For this purpose probably nothing is better than a 5-grain dose of calomel, followed in six hours by half an ounce of sulphate of magnesium. It is good practice to cause two free movements of the bowels daily, for a week, to insure, if possible, the elimination of all the embryos of the worm. Also, thymol, in capsules each containing 0.10 gram (about 2 grains) should be administered four or five times in twenty-four hours as an anthelmintic and bowel antiseptic.

℞	Gm.		
Thymolis	2|	or	3ss

Fac capsulas siccas 20.

Sig.: A capsule four times a day, taken with plenty of water.

At the end of a week, if there is any gastric or intestinal irritation, the following prescription is of value:

℞	Gm.		
Bismuthi subcarbonatis.....	20|		3v
Phenylis salicylatis	5|	or	gr. lxxv

M. et fac chartulas 20.

Sig.: A powder, three times a day, before meals.

The stools should be examined at the end of a week for the worms, and then once every week for several weeks.

The above intestinal treatment is generally efficient. There is probably no good reason for giving several or repeated doses of male fern or santonin, which have been recommended to eradicate this worm.

Glycerin has been recommended, given internally, on account of its supposed ability to kill the worms by its hygroscopic properties. As it must be taken very well diluted not to cause nausea, it is a question of what value this treatment is. If well diluted it can do no harm, and may be used as an additional medicament. It acts also as a laxative. The dose would be a tablespoonful two or three times a day.

The diet should depend on the amount of fever, and under any circumstances for several days should be liquid; milk, broths, and cereal gruels.

There is no known way of destroying the larvæ or trichinæ in the muscles. Picric acid has been recommended as possibly having the ability to destroy the larval forms that are circulating in the blood. This is perhaps doubtful. The internal dose is 0.03 to 0.10 gram (½ to 2 grains) dissolved in alcoholic solution and taken well diluted. It is intensely bitter. It would seem unwise to use picric acid, which is likely to cause severe gastro-intestinal irritation, nervous irritation, and perhaps irritation of the kidneys, when there is such a large element of doubt as to its therapeutic value in this disease. There may be some justification for administration of large doses of quinin.

As after several weeks, perhaps six, the localizations of the worms in the muscles become encapsulated and permanently external to the body, so to speak, and forever after harmless to the host, it might be well to saturate the system with calcium salts, such as lime water, or perhaps better, the glycerophosphate of lime, in order to hasten the deposit of calcareous matter in the capsules surrounding the worms. Therefore, as soon as the active intestinal medication is over and the patient recovering, the glycerophosphates of lime should be administered. The patient also generally requires iron.

During the height of the fever, the patient may be restless and sleepless and require hypnotics or sedatives. On account of the muscle irritation the bromids or chloral are very valuable.

Although there may be considerable muscular weakness for some time after the acute symptoms are over, it would seem inadvisable to resort to massage or electricity, as these would tend to interfere with the normal isolation of the germs by Nature's methods.

The Culture of Human Lepra Bacilli.—F. W. Twort reported results of experiments in cultivating the lepra bacillus of man (*Nature*, Nov. 24, 1910). On account of the close relation between the tubercle and lepra bacilli it occurred to him as probable that they would require the same chemical substances for building up their protoplasm; which, however, could be elaborated from the ordinary media by the tubercle bacillus only. If these then could be furnished already made to the lepra bacillus it might be cultivated, and the easiest way to do this would be by adding to some good culture medium a proportion of ground-up bodies of tubercle bacilli containing them. He therefore made up a culture medium consisting of egg, 3 parts; 0.8 per cent sodium chlorid, 1 part; ground tubercle bacilli, 1 per cent.; and glycerin, 5 per cent. or less, mixed, placed in tubes, sterilized and set in slopes. Leprosy bacilli, previously treated to kill contaminating organisms, are inoculated on the tubercle medium. They grew as a delicate colorless streak and showed the typical morphologic and staining characters of the lepra bacillus. He proposes to follow up the work with experiments to make a lepra vaccine and to grow the lepra bacillus of rat.

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 4, 1911

ALCOHOLISM AND HEREDITY

Recently several studies of a statistical nature and dealing with the effects of alcoholism have been published by Professor Karl Pearson and his associates in the Francis Galton[1] Laboratory of Eugenics in the University of London.[2] The essential conclusions drawn by these investigators from their studies have been subjected to vehement criticism, especially by the outspoken friends of temperance, and a rapid-fire discussion has been carried on, the echoes of which we still hear. Like nearly all discussions of the alcohol question, this is marked by considerable extravagance of statement and by sharp personal conflict; nevertheless it will serve a highly useful purpose in bringing into wider prominence, and securing larger recognition for, the need and importance of unbiased and scientific study of the problems of alcoholism. Everyone will agree, it is believed, with Sir Clifford Allbutt when he says that "much of the literature of alcoholism is of a rhetorical rather than a scientific order, and the sooner scientific order and method are introduced the better."

Now the particular conclusion with regard to heredity which is drawn by the Eugenics Laboratory workers from the materials they studied and which has met such violent attack, is in substance that alcoholism in the parents does not *per se* result in deterioration of the physique and mental powers of the offspring. The critics, notably Sir Victor Horsley in association with Dr. Mary D. Sturge, assert that the evidence is altogether too slender to support so heavy a burden as this startling and revolutionary view. They charge the authors of the report with errors that invalidate completely not only this particular conclusion but also other conclusions from the same series of studies. It is probably altogether unnecessary to point out that Professor Pearson and his co-workers do not assert that alcohol may be taken with impunity or that it promotes evolution in an upward direction. They simply give the results reached through the study by their methods of certain data. Whatever the value of their statistical researches in the establishment of actual facts may be—and we must bear in mind that at present the data available for this kind of study necessarily suffer from incompleteness and other shortcomings—they bring us face to face with problems of the nature of the association of alcoholism and degeneracy.

It is customary to attribute to parental alcoholism many mental and physical defects; for example, epilepsy, mental and moral enfeeblement, certain forms of insanity, stunted growth, deaf-mutism, etc. But what about the possibility of an underlying hereditary defectiveness in these alcoholic parents which gives rise to defective offspring? And what about the view that alcoholism itself is the symptom or result of degeneracy rather than the cause thereof? Because degeneracy is associated to such an evident extent with alcoholism, it becomes necessary to exclude the subtle influences of hereditary degenerative tendencies before it can be shown conclusively that parental alcoholism uninfluenced by other factors exercises a determining effect on heredity and results in physical and moral degeneration of the offspring.

In his helpful address on "The Ancient Foundations of Heredity,"[3] A. B. Macallum points out that many of those vitally interested in these questions assume that heredity can be modified by accidental influences much more easily than is believed to be possible by most biologists. The problem of the hereditary influences of alcoholism as well as the closely related problem of such great import in study and prevention of inebriety, namely, whether alcoholism is an antecedent or a consequent of degeneration, are exceedingly difficult ones, on the correct solution of which much depends and which we can hope to solve only by means of the methods of general science.

MILK LEGISLATION

A bill, concerning the production and distribution of milk, which is of more than local interest has been introduced into the Illinois legislature. It seeks to place the inspection of dairies under state authority, and would prohibit cities from enforcing the tuberculin test or otherwise specifying the conditions under which milk should be produced. Incidentally, it may be remarked, the bill illustrates a certain well-defined tendency in American politics to keep cities and other local governing bodies as impotent as possible to perform services needed by the citizens—an impotence which never hampers the activities of the practical politician, as many good people innocently hope it may. The bill is the outcome of an investigation by a committee consisting of ten members of the state legislature, four senators and six representatives, none of whom claims to have expert knowledge of the conditions under which clean milk should be produced. The opposition of milk-pro-

1. A notice of the death of Sir Francis Galton, with a brief summary of his scientific work, appears in the London Letter, this issue.

2. Eugenics Laboratory Publications, 1910, xiii, x. For further references see Sturge and Horsley, Brit. Med. Jour., 1911, i, 72.

3. Canad. Med. Jour., 1911, i, 1.

ducers to the tuberculin test is largely responsible for this investigation and for the existence of the state commission.

Almost at the same time, a committee was appointed by the Mayor of Chicago to investigate the milk-supply coming to Chicago. This committee, which has not yet made its report, is composed of a physiologic chemist, a veterinarian, a pediatrist, a bacteriologist, representatives of the Chicago Health Department, one member from the Public Health and Marine-Hospital Service, one from the City Law Department, a member of the State Milk Commission, a member of the Milk Dealers' Association and one from the milk-producers, with one of the aldermen of Chicago as chairman.

On account of the difference in the character of the two committees and the methods of procedure in the investigation, a comparison of their reports should be of interest. The city committee is investigating the milk question from a scientific as well as from a practical point of view. Literature regarding milk-production has been studied, and tours of inspection have been made to see the practical production, handling and pasteurization of milk. The investigations have not yet been completed, but from the character of the committee and the methods followed the results should be of value.

An entirely different procedure has been adopted by the state committee. Experts and so-called experts have been examined and their opinions collected. The value of this sort of investigation would depend on the competency of the witnesses as experts, and, as will be seen, this is perhaps open to some question. Under this committee, the chief points considered were the bacteriology of milk, pasteurization and the tuberculin test. The competency of some of this expert testimony may be judged from the following instances:

One witness stated that he had pasteurized a sample of market milk in his laboratory and found tubercle bacilli surviving. On cross-examination, it was brought out that in his method of examination he had not taken the precaution to avoid the formation of a film, which, as Theobald Smith has shown, is a protection to tubercle bacilli. Evidence that they were really tubercle bacilli was based on microscopic examination alone and not on the results of animal inoculation, which is the only safe means of differentiating tubercle bacilli from other acid-proof bacilli frequently found in milk.

Another witness stated that his unfavorable opinion of pasteurization was based on bacterial counts made by several thousand "chemical" examinations. The third witness was also able to distinguish different species of bacteria by microscopic examination. He was opposed to pasteurization because he found that the serum of pasteurized milk kept at room temperature for seven days killed a guinea-pig, while serum of raw milk kept seven days did not. This single experiment on two guinea-pigs convinced him of the toxicity of pasteurized milk. He did not consider the fact that neither raw nor pasteurized milk is usually consumed after seven days. The tuberculin test was condemned by many "experts" whose competency was not established on cross-examination. The results of such an investigation would hardly be convincing to scientific men or to men having a real knowledge of clean milk production and the menace of a tuberculous infection of cows.

As intimated by the chairman of the committee previous to the completion of the investigation, however, the committee in its report favored the abolishment of the tuberculin test and the taking of the control of the milk-supply out of the hands of cities and providing for its regulation by state inspection. The matter of pasteurization was ignored altogether by the committee in its report. These recommendations have been embodied in the bill introduced in the legislature. If this bill becomes a law, cities must accept the milk as delivered by the producers without authority of examination.

A law of this nature might be effective if a large and competent force of expert inspectors, veterinarians, chemists and bacteriologists were employed. This force would have to be sufficient to control the milk at the point of production, at the receiving and delivery stations, at the railroads, at the distributing stations, on the delivery wagons, etc. This would be an enormous task, one of much greater magnitude than would be necessary if cities were permitted to control their own milk-supplies.

Such a system of state supervision is in force in Pennsylvania. At a recent meeting of a county farmers' association in that state, a resolution was passed criticizing the system of dairy inspection instituted by the state board of health, because, as the members believed, it was not accomplishing the purpose intended, but had resulted unsatisfactorily, as might be expected. The selection of inspectors under the pay and allowances made by the state legislature had resulted in many of the positions being filled by men wholly without training or special ability for such serious and important work. The results would probably be no different in Illinois. But the significance of this criticism lies in the fact that it was made by the farmers, the milk-producers, the class in whose interest the legislation in Illinois was primarily instigated.

Other states have enacted or are contemplating the enactment of similar laws, and this makes the action of the Illinois commission and of the state legislature of more than state interest. Unfortunate conditions have arisen in Iowa on account of legislation which would prevent the city of Des Moines, the largest city in the state, from controlling its milk-supply. The law is being tested in the courts.

The value of the tuberculin test is accepted by men who are competent to express an opinion. Pasteurization of milk is also of undoubted value in the absence of the compulsory tuberculin test. The cattle-owner does

not realize that not only is the presence of tuberculosis in his herd a menace to public health, but his herd cannot be as profitable as a healthy herd, and that, moreover, one tuberculous cow will spread disease rapidly to healthy cows. The production of clean milk is wholly a scientific and not a political or commercial question, and the mere idea that the lives of innocent babies should depend on political or commercial considerations is a monstrous one.

PREVENTION OF FOURTH-OF-JULY TETANUS

The duty of the medical profession in the matter of Fourth-of-July tetanus is distinctly threefold. First, it has an important function in securing legislation which shall prevent injuries from explosives; secondly, it must prevent tetanus and other serious complications resulting from such injuries; last, it has the almost hopeless task of trying to prevent a fatal outcome in those cases of tetanus which have been produced by Fourth-of-July injuries. Certainly the most logical point of attack is the celebration itself. That this foolish habit of an annual orgy of gunpowder and bloodshed is not one which cannot be broken has been shown in a number of communities. Last year, the city of Trenton, N. J., which previously had suffered severely in proportion to its population, adopted a prohibitive ordinance, suppressed the gunpowder celebration, and totally eliminated Fourth-of-July injuries; the previous year there had been fifty-nine injuries reported, with one death. In 1908, Cleveland had 105 injuries with twelve deaths; a prohibitive ordinance reduced the casualties to four in 1909 and one in 1910, with no fatalities. Baltimore by the same means has kept down the list of injuries, while Washington has had no injuries for two years. These examples, and many others that might be cited from the experience of smaller cities and towns, show that it is perfectly possible to eliminate all the physical injuries which we have so long associated with the Fourth of July, to say nothing of the loss by fire, nervous strain, squandering of money, and the inculcation into impressionable youths of bad ideas as to the free use of firearms and explosives.

Restrictive measures give results in direct proportion to the vigor with which they are enforced, but, like most compromises, are satisfactory to no one. New York by this means reduced the number of injuries from 552 in 1909 to 185 in 1910, six of the latter being fatal; in Chicago the usual number of accidents was cut to less than half, but still there were sixty-six injuries with four deaths. Evidently, then, it is the plain duty of every community which has permitted the use of explosives in Independence Day celebration to put an absolute stop to the practice. While an ordinance prohibiting the use of blank cartridges, firearms and giant crackers would, if enforced, abolish most of the dangers of the Fourth, yet experience shows that such an ordinance cannot be enforced. Only when the sound of any explosive means a violation of the law can the more dangerous explosions be prevented; furthermore, hundreds of accidents, many fatal, are annually caused by the so-called harmless fireworks. If boys are given a mild taste of the joys of noise and devastation which gunpowder can produce, they will seek and discover ways of getting more; but if for a very few years this sort of celebration can be prevented, the demand for it will vanish with the coming in of a new generation of small boys who know not what they have missed. During the transition period, substitution in the way of parades, picnics, sports and other wholesome means of entertainment may be advantageously employed, and in time these things will undoubtedly develop in a way to make our great national holiday fully as memorable and a much more appropriate day in the calendar.

In bringing about this change there is every opportunity for medical men, and especially for medical societies, to do much for public welfare, and this is the time of year in which to begin work which will secure results. If local medical organizations will use their opportunities to influence public opinion through the press and personally, in nearly all communities they can make it possible to secure legislation which will abolish the Fourth-of-July carnage. Through properly directed efforts medical societies can secure the introduction and passage of suitable ordinances, and can greatly assist in their enforcement. Probably there are few directions in which concerted action can accomplish so much immediate good as this, and it is a service which every medical society should seek to perform for its own community. THE JOURNAL stands ready and prepared to furnish data on the results of past celebrations, and advice as to the prevention of future harm.

THE INFLUENCE OF THE PRINCIPLE OF SPECIFICITY ON MODERN MEDICINE

The term "specificity" has come into such every-day use that we are in danger of losing sight of its broader significance among the countless special points of application which are closer to our eyes. It is the opinion of Wassermann, expressed in a recent address on this subject,[1] that it is recognition and investigation of this fundamental biologic principle which characterize the present era of medical science and to which its progress is most largely due. We owe to Robert Koch its first definite statement, in the declaration that every infectious disease is caused by a definite agent, and that this agent is found always in that special disease, and that no other disease is produced by that agent; in other words, the causal organism is specific for the disease. The next step came with von Behring's discovery that in response to invasion by the bacteria or their poisons the body reacts with the production of

1. Wassermann: Deutsch. med. Wchnschr., 1910, xxxvi, 1860.

substances which are specific for the products of these bacteria. For some time the idea of specificity was associated only with bacteria, but after a time it was found to apply equally to the proteins of the higher forms of life, whether of animal or vegetable nature, and now we recognize that a certain degree of specificity may exist even between different tissues and fluids of the same individual. Under certain conditions we can distinguish by biologic reactions between the milk and the blood-serum, or between the egg proteins and the tissue proteins, and possibly also between the proteins of different organs of the same animal. An interesting special case is furnished by the crystalline lens protein, which is so sharply differentiated from the other proteins of the animal that it acts to the animal which formed it as an entirely foreign protein; it is said to be possible to sensitize a guinea-pig with the lens from one of its own eyes so that it will be intoxicated when injected with an extract of the lens from the other eye.

Recent developments would seem to indicate that the phenomenon of specificity is not limited to the proteins, but may also be exhibited by the fatty substances, as in the relation of the lipoids to the serum reactions of syphilis. In echinococcus infection, we find the blood of the host developing substances which react specifically with the lipoids of the echinococcus, and not with similar lipoids from the tissues of the host.

The classical demonstration that tetanus toxin is fixed by nervous tissue, taught us that there exist specific relationships between body cells and poisons as well as between the blood-serum and poisons, and led us to an understanding of how toxins do their work. From this has in turn developed the appreciation that there are two possible ways of approaching our task of preventing harm from injurious agents: we may reduce or remove the specific affinity of the cell for the toxic substance, or we may turn toward the "noxa," as the Germans say, and render it incapable of combining with the cell. Of these two methods only the latter has received much attention or given much encouragement. Here we must place, not only our few efficient antiserums, but also the parasiticidal drugs. It was through his early appreciation of the generality of the laws of specificity that Ehrlich came, over twenty years ago, to develop the principle of specific chemical agents which should act on specific cells, this being before the discovery of specific serum therapy. From this has grown the new science of chemotherapy, based on the principle that the affinity of the drug shall be greater for the parasite or its poisons than it is for the cells of the infected individual; in other words, chemotherapy seeks for substances that combine specifically with the parasite or with its poisonous products, a requirement which had already been fulfilled through empiricism in at least one case, that of quinin and the sporulation forms of malaria parasites.

The growth period of medical science, which immediately preceded the present period, developed about the central thought of the dominance of the cell in structure, function and disease. Concerning itself largely with post-mortem material, and observing chiefly the steps leading away from physiologic integrity, medical thought inevitably took a pessimistic turn, and therapeutic nihilism was the logical outcome. But the central idea which in recent years has guided investigation is, Wassermann contends, that of specificity. Under its influence therapeutics comes again into its own, and optimism takes the place of nihilism as we cease to limit our faculties to the contemplation of the ravages of disease and turn our attention toward the living being, and the search for substances which have specific affinity for the cause of the disease, or for the organ we wish to affect.

The doctrine of specificity now dominates medical science, and we look for happier results from the new régime, trusting that as pathologic anatomy under the influence of the cell doctrine gave us a better understanding and more accurate diagnosis of disease, the study of specificity will add as much to our ability to control and cure it.

Current Comment

JOURNAL OF THE CANADIAN MEDICAL ASSOCIATION

With pleasure we note the advent in the field of official medical journalism of the new *Canadian Medical Association Journal,* representing the organized profession of Canada, the first number of which appears with the new year. The increase in the number of medical journals connected with and representing medical organizations is but an expression of the demands and the ideals of a modern conception of medicine, of which the passing of the proprietary medical school is still another phase. A journal which is unhampered and uninfluenced by commercial considerations, which receives the support and encouragement and the contributions of the best of the profession, and which may use its prestige, its wide circulation and the able services at its command to foster and carry out the ideals and objects of the profession, is the one that is in position to accomplish the most and best for both the public and the profession. For the modern conception of medicine is not only to elevate the profession, to make better educated, more skilful physicians, but also to discover methods and measures of prevention and to promote the public health. To do this requires education, legislation and the united support of the profession. As an aid in the creation of a perfect organization and in carrying out the measures proposed by such organization, the publicity made possible by an official journal is a most important and, indeed, an essential factor. Many of the state societies have established official organs which are a power for good in their respective fields. We are glad to see the national organization of Canada adopt this plan by taking over the *Montreal Medical Journal.* The editorial direction of the new journal remains the same, and the journal will continue to be issued from Mon-

treal. The first number sets a very high standard, both in the character of the papers and editorially. A noteworthy improvement over the journal which it succeeds is the exclusion of numerous advertisements of objectionable proprietary preparations which have been shown to be fraudulent, misbranded or downright nostrums. In this respect the new journal sets a wholesome example, which might be followed with credit by its contemporary in the mother country, the *British Medical Journal*. We offer our felicitations to the *Canadian Medical Association Journal*.

MEDICAL EDUCATION AND PRACTICE IN JAPAN

According to a report from the American Consul at Nagasaki, commented on in the 1910 Report of the U. S. Commissioner of Education, Japan has two grades of medical colleges. To enter the ordinary medical colleges, eleven or twelve years of work in the elementary and middle schools are required, but for admission to the medical colleges of Tokyo, Kioto and Fukuoka universities, three additional years of higher preliminary training are required. The medical course extends over four years. Graduates from the imperial universities and other approved medical schools must secure a license from the minister of home affairs before they begin to practice. A graduate of a foreign medical school or a holder of a physician's license, coming from a country that licenses Japanese physicians without examination, may be licensed by the minister of home affairs. No person may practice medicine who has been sentenced to imprisonment or fined in connection with medical practice. Books must be kept by physicians for ten years, and the names, ages, residence, professions, and the names of diseases of patients and the method of treatment applied to them must be entered therein. Physicians may not make a false advertisement by boasting of their talents, nor may they advertise as having secret methods of treatment.

PREVENTING TUBERCULOSIS AT ITS FOUNTAINHEAD

Childhood, says A. W. Jones,[1] is the period of life in which the greatest susceptibility to tuberculosis infection exists, and adult tuberculosis is generally an after-result of childhood infection. The true field of prevention in antituberculosis work, then, is obvious. Jones restates the opinion that the tuberculous infection of the individual does not occur by direct entrance into the blood through the air cells of the lungs, but always through the glandular system, either in the respiratory or alimentary tracts, and that in the vast majority of cases it occurs in infancy. If the infection occurs before the second year the patient promptly dies; if after the age of 2 the disease is more likely to become latent, and from this age up to puberty this tendency to latency increases with each year of age. What is called early tuberculosis in adults is generally the second stage or the beginning of the third, and at best it can be spoken of only as the early stage of pulmonary tuberculosis. Jones says that it should be the business of preventive medicine to forestall this stage. Logically, the upbuilding of the individual at the time of the true incipiency of the disease will give to Nature the greatest amount of assistance at the most applicable moment in the life of the disease. And as childhood is also the constructive period of the individual, the time when the tendency to normal cell-growth is at its highest, we may naturally expect the greatest returns for efforts expended, and the greatest percentage of absolute recoveries possible. Jones designates the public school as the "unworked field of preventive medicine" wherein most effective work in this line can be done. While this cannot be said to be a wholly "unworked" field—witness the active movement for the betterment of school hygiene, medical inspection, the establishment of open-air schools, etc.—yet it is no doubt a vulnerable point of attack in the eradication of this disease.

1. Jones, A. W.: An Unworked Field of Preventive Medicine, Jour. Minn. State Med. Assn., Oct. 1, 1910.

THE KISS OF DEATH

A better understanding of the sources and methods of transmission of infectious diseases has resulted in many changes in matters of personal and public hygiene. Mediate and immediate personal contact is found to account for many of such infections, and this has resulted in such measures as the abolishment of the public drinking-cup and of the use of slates by school children, greater care in the disposal of the sputum of the tuberculous, and the sterilization of bacillus-carriers. The transmission of such infections as diphtheria, syphilis and tuberculosis, have in some cases undoubtedly been due to methods used in certain industrial occupations, such as the use of blowpipes by jewelers and glass-blowers, and perhaps the sticking of the wrappers of cigars by the saliva in the cigar industry. Among these "relics of a more careless age" is a custom in the cotton factories necessitated by the old-fashioned weave-room shuttles, grimly called the "kiss of death." This shuttle, which requires the sucking of the thread through a hole by the operative, has doubtless been responsible for the carrying of tuberculosis and other infections throughout all the generations in which it has been used, and is, indeed, a veritable "kiss of death." A shuttle has been devised which does away with this lip contact, and a bill has been introduced into the Massachusetts legislature to compel mill-owners to abandon the use of the old shuttle. Popular knowledge of infectious and contagious diseases and the way they are carried should be all that is necessary to abolish at once all such contrivances. Unfortunately, it is sometimes easier for a camel to go through the eye of a needle than for a "practical" man to recognize facts, the corollary to which, if acted on, might possibly shave profits more or less; and this bias is illustrated by the fact that there is no market in the United States for certain life-saving devices which are manufactured here. These devices are sold only abroad—where the law compels their use. It is a sad commentary on our civilization and appreciation of what is humane that any legislation should be needed to compel the employers of labor to eradicate from the industries all forms of the "kiss of death."

THE SEPTIC TANK

A particularly clear and authoritative statement of the modern view of the septic tank will be found in an editorial by Rudolph Hering in the November, 1910, number of the *American Journal of Public Hygiene*. The reasons for the decline in the favor with which the septic tank was once regarded are stated under six heads. A few sentences will bear quoting: "The great reduction in the amount of sludge to be handled as promised by the advocates of the septic tank has not been realized." "A reduction of bulk by drainage is very much greater than a reduction by septic action, the latter referring only to solid matter." "The odor about a septic tank is frequently offensive." "It was found that the septic effluent was less fit for subsequent oxidation of the sewage by biologic filters or bacteria beds than fresh settled sewage." "The sludge which has to be removed from septic tanks is often foul when taken out and its removal is connected with more or less of a nuisance." The article cited is not confined to a discussion of the septic tank, but deals with other methods of sewage disposal in the light of the most recent investigations along both practical and theoretical lines.

THE DECREASING GERMAN BIRTH-RATE

The race-suicide question is beginning to come to the front in Germany. Last year's birth-rate was only thirty-three per thousand, as against thirty-six for the decade ending with 1890, and forty-two in 1875. It is highly probable that this decrease will continue. The phenomenon is the natural consequence of increasing thrift and prosperity and changed social conditions. It is asserted that the higher standard of living tends to produce physiologic conditions which in themselves decrease fertility. Economic and social reasons, however, including the tendency to delay marriage under modern conditions of life, are ample to account for the gradual decrease in highly civilized countries at the present time. The birth-rate does not decrease rapidly among the members of an improvident proletariat.

Medical News

COLORADO

Trades Union Hospital.—The Denver Union Hospital Association has opened headquarters and is raising funds for the erection of a hospital especially for members of allied trades unions.

Hospital Saturday and Sunday.—The Hospital Saturday and Sunday Association, Denver, collected on Tag Day $6,080. During last year the association gave hospital care to 266 persons.

Personal.—Dr. Elizabeth Cassidy, Denver, has been elected a member of the Board of Commissioners of Denver County. ——Dr. Leonard Freeman was operated on for appendicitis and is reported as doing well.

State Society Meeting.—The Colorado Society for the Prevention and Control of Tuberculosis, at its annual meeting in January, reelected Dr. G. Walker Holden as president and S. Poulterer Morris as executive secretary.

Home for Mental Defectives.—The State Home and Training School for Mental Defectives now under construction at Arvada will be ready for occupancy in the spring. Its completion will remove from county institutions all public charges of this class.

House-Warming.—On January 2 a house-warming was given by Drs. Melville Black, Leonard Freeman, Josiah N. Hall, Samuel D. Hopkins, Robert Levy and Charles B. Lyman at their office on the fourth floor of the Metropolitan building. The good fellowship manifested on this occasion was such that it was felt to be a great success.

Gift to Consumptive Hospital.—Mr. Jacob August, Cleveland, has given $25,000 to the National Jewish Hospital for Consumptives, Denver, the interest to be used for the maintenance of the trades school.——Mrs. Lewis Schoenberg; Cleveland, has provided $25,000 for the purchase of a farm near Denver to provide supplies for the inmates of the hospital.

Denver Deaths in 1910.—Dr. W. H. Sharpley, Commissioner of Health of Denver, reports that during the year, 3,518 deaths occurred, of which 1,224 were from general diseases; 300 from nervous diseases; 380 from circulatory diseases; 412 from respiratory diseases; 325 from digestive diseases; 262 from genito-urinary diseases and 238 from external causes. Tuberculosis in all forms caused 690 deaths and pneumonia 328 deaths.

Sanitarium for Colored.—The National Lincoln-Douglas Sanatorium and Consumptive Hospital Association has begun a series of meetings to promote interest in an institution for the care of colored individuals suffering from tuberculosis.—— James Polk Taylor, formerly a slave, and his wife have donated 480 acres of land at Calhan, forty miles east of Colorado Springs to the Charles Sumner Tuberculosis Association, as a site for a national tuberculosis sanatorium for negroes of the United States.

ILLINOIS

Money for Medical School.—The budget of the University of Illinois, which amounts to $3,551,000 asked to be appropriated by the present legislature, includes an item of $200,000 for the maintenance of the college of medicine.

Tuberculosis Dispensary Open.—The new free dispensary organized by the Springfield Tuberculosis Association, was formally opened, January 23. The dispensary will be open from 10 to 11 on Monday, Wednesday and Friday mornings, and at the same hour on the first and third Saturdays of each month, children will be examined and treated.

Personal.—Dr. Joseph M. Wallace, Aledo, is reported to be seriously ill with pneumonia.——Dr. Franklin N. Odbert, Indianola, is ill at his home with influenza.——Dr. Walter F. Wessels, Mendon, sailed for Germany, February 1.——Dr. Green E. Hill, Girard, is ill at his home with influenza.—— Dr. Lemuel L. Silverthorn, Charleston, who has been seriously ill is reported to be improving.

Elections.—At the annual meeting of the Winnebago County Medical Society, held in Rockford, January 10, Dr. William H. Fitch was elected president; Dr. Allen C. Eakin, vice-president; Dr. Frank W. Hanford, secretary-treasurer; Dr. William E. Park, censor; and Dr. Charles E. Crawford, delegate to the state society, all of Rockford.——At the annual meeting of Sangamon County Medical Association, held in Springfield, January 9, Dr. George F. Stericker was elected president and delegate to the state society; Dr. William A. Young, vice-president and alternate delegate to the state society; and Dr. Otto H. Deichmann, secretary-treasurer, all of Springfield.

Chicago

Personal.—Dr. Thomas O'Malley has been appointed a member of the Chicago school board.——Dr. Earl J. Brown was attacked near his home, January 23, beaten into insensibility, and robbed of money and jewelry.

New Hospitals.—The Missionary Sisters of the Sacred Heart of Jesus are erecting a new hospital to be known as the Columbia Extension Hospital for the free use of the deserving poor, regardless of race, creed or color. The institution is located at Lytle and Polk Streets and will be dedicated, it is expected, in April or May.——An ordinance was passed, January 30, providing for the purchase of land at North Fortieth and Bryn Mawr Avenues on which to construct a tuberculosis hospital.

INDIANA

Public Drinking Cups.—Dr. Charles S. Woods, secretary of the Indianapolis Board of Health is preparing an ordinance prohibiting the use of public drinking cups.

Expelled from Medical Society.—The LaPorte County Medical Society is said to have expelled Dr. Johann H. William Meyer, charged with the performance of criminal abortion.

1. November, 1910.

XUM

Anniversaries.—On January 17, Dr. William H. Wishard, Indianapolis, celebrated his ninety-fifth birthday.——Dr. General W. H. Kemper, Muncie, celebrated on Dec. 31, 1910, the fiftieth anniversary of his entrance into the practice of medicine.

State Board Election.—The Indiana State Board of Medical Registration and Examination, at its meeting held in Indianapolis, elected the following officers: president, Dr. William A. Spurgeon, Muncie (reelected); vice-president, Dr. James M. Dinnen, Fort Wayne; secretary, Dr. William T. Gott, Indianapolis (reelected, and treasurer, Dr. Moses S. Canfield, Frankfort.

License Revoked.—The State Board of Medical Registration and Examination at its meeting, January 18, is said to have revoked the license to practice medicine of Dr. Charles D. Pettigrew, Logansport, for alleged fraudulent advertising, the complaint being made by Dr. Rodney E. Troutman, Logansport, president of the Cass County Medical Society. Dr. Pettigrew has taken an appeal from the action of the board.

Personal.—Dr. Thomas L. Taylor, Indianapolis, has been appointed physician to the Indiana School for Feeble-Minded Youths, Fort Wayne.——Dr. William F. Houk, Crown Point, Deputy Coroner of Lake County, was seriously injured, January 14, in an automobile explosion, and it is feared may lose his sight.——Dr. Harry B. Leavitt, Worthington, has been elected superintendent and Dr. W. A. Gekler, Indianapolis, assistant superintendent of the State Tuberculosis Hospital, Rockville.——Dr. George E. Clements, Crawfordsville, is spending the winter in Berlin and Vienna.——Dr. Walter J. Mitchell, North Vernon, has been elected clerk of the circuit court of Jennings County.——Dr. George Murphy, Leo, is reported to be critically ill in St. Joseph's Hospital, Fort Wayne.——Dr. Frank M. Morrison has been reelected president of the Board of School Directors of Indianapolis.——Dr. Richard B. Wetherill, Lafayette, sustained serious injuries in an automobile accident, January 9.——Dr. Victor V. Cameron, West Marion, has succeeded Dr. George R. Daniels as coroner of Grant County.——Dr. Walter H. Peters, Lafayette, recently underwent operation at Rochester, Minn., and is reported to be convalescent.——Dr. Kent K. Wheelock, Fort Wayne, has returned from abroad.

IOWA

Upholds State Board.—The attorney-general ruled, January 3, in refusing Dr. J. W. Crofford, Decature, a renewal of his license to practice medicine in the state, that the State Board of Health had acted rightly in refusing to cancel the revocation of Dr. Crofford's license.

Acquitted.—Dr. Arnold Jolly, Hamburg, accused of causing the death of Mrs. Fanny Noblett, May 13, 1910, by a criminal operation, was declared not guilty by the jury, January 14. The defendant was returned to the county jail, however, to answer to a rather similar indictment.

Staff for Children's Home.—At the annual meeting of the medical staff of the Iowa Children's Home, Des Moines, January 5, the following officers were elected: president, Dr. James W. Cokenower; secretary, Dr. Bernard J. Callahan; oculists, Drs. William W. Pearson and Charles M. Werts; surgeon, Dr. James W. Osborn; dermatologist, Dr. Edward R. Posner; neurologist, Dr. Francis A. Ely and members of the attending staff, Drs. Nellie S. Noble, Joseph A. Goodrich, Bernard J. Callahan, Robert L. Parker, L. M. Nourse and R. G. Davis.

Personal.—Dr. Francis E. McGlone, Mason City, was seriously injured by falling on an icy walk near that town, January 10.——Dr. and Mrs. George H. Stanger and daughter, Boone, sailed for Europe, January 25.——Dr. Frank H. Hanson, Magnolia, was seriously injured in a runaway accident, January 4.——A recent fire in Marengo destroyed the office fixtures, instruments and books of Dr. Edgar B. Henderson. ——By a fire in Albia, Dr. Taylor R. Jackson sustained a loss of $1,000.——Dr. Irenarch S. Buzzard, Russell, has returned from abroad.

KENTUCKY

Election.—The Nicholas County Medical Society, at its meeting in Carlisle, elected Dr. Benjamin F. Reynolds, president; Dr. Malcolm Dills, vice-president and Dr. John M. Wells, secretary-treasurer, all of Carlisle.

Tenement House Law.—The first case to be tried in the ordinance court under the new tenement-house law will come up February 2. The health officer has sworn out a warrant against the owner of a tenement house, stating that there is no light on the stairway; that the house is without water on the different floors and that garbage cans are not provided.

Personal.—Dr. Stephen Sharp has been appointed bacteriologist of the Covington Health Department, vice Dr. John Batte, resigned.——Dr. Thomas J. Slaton, Greenville, has been appointed health officer of Muhlenberg County.——Dr. William A. Wright, Corn Creek, has been appointed health officer of Trimble County, vice Dr. Charles P. Harwood, Milton, resigned.——Dr. Clarence P. Burnett, Paducah, has been appointed city health officer and registrar of Paducah and registrar of McCracken County, vice Dr. Shandy Z. Holland, resigned on account of ill health.

MARYLAND

Election.—At the meeting of the Cumberland Academy of Medicine, January 18, Dr. James T. Johnson was elected president; Dr. Edwin B. Claybrook, vice-president, and Dr. John R. Littlefield, secretary-treasurer.

State Hospital Report.—During the fiscal year ended Nov. 1, 1910, 672 patients were treated in the Maryland Hospital for the Insane near Catonsville. Of these, twenty-seven were discharged, eighteen of which were recovered, five improved and four unimproved. During the year there were forty-seven deaths.

Personal.—Dr. McPherson Crichton, Washington, D. C., was acquitted in the circuit court, Rockville, Md., January 23, on the charge of manslaughter, as a result of an automobile accident in August last. So weak a case was made out that the judge did not allow the case to go to the jury.——Dr. Thomas Z. Offutt, Granite, is reported to be seriously ill.——Dr. George Wells, for several years chief of the staff of the Annapolis Emergency Hospital, has resigned and Dr. James J. Murphy has been appointed in his stead. Dr. W. S. Welch has been appointed secretary of the staff and Drs. J. Oliver Purvis, Louis B. Henkel and James J. Murphy, have been made the executive committee.

Baltimore

Small-Pox on Steamer.—The steamship *Main*, from Bremen via New York, was detained at Quarantine, January 23, on account of the existence of a case of small-pox in one of the passengers.

Enlargement of Hospital.—Plans are being made for the addition of another story to the Maryland General Hospital, which will give accommodation for seventy-five additional patients and will add to the institution, two operating rooms and a sun-parlor.

Personal.—Dr. Hugh H. Young gave a reception, January 28, to Seymour Thomas, a portrait painter of Paris, when a portrait of Dr. William Osler, by the latter, was exhibited.——Dr. Thomas Harris Cannon is reported to be critically ill with uremia at the University Hospital.

Gift to Crippled Children's School.—Mrs. William Painter has added $10,000 to her donation to the Crippled Children's School near Catonsville, making her entire gift $30,000. This will enable the institution to remain open the year round, instead of being closed in the winter as at present.

Dental Dispensary for Children.—On October 1, Mrs. Henry Barton Jacobs will open a dental dispensary exclusively for children at the Robert Garrett Hospital for Children. This is said to be the first dental dispensary to be established in the country and it will be under the charge of Dr. D. Edward Duff.

MASSACHUSETTS

New Site for Hospital.—The trustees of the Foxboro State Hospital for Inebriates have chosen a site for the new institution in the town of Norfolk, containing 640 acres, and the governor and executive committee have approved this choice.

Society Centennial.—The Boylston Medical Society celebrated its centenary by a dinner at the Harvard Union, January 6. Dr. John L. Morse, the president, was toastmaster and the speakers included many prominent professional men of New England.

Fined for Failure to Report.—Dr. George Reinherz, East Boston, and Dr. Elmer L. Brine, Boston, are said each to have been fined $50 for failure to report cases of ophthalmia neonatorum within six hours of birth of children so afflicted. In the latter case, the sentence was suspended and the defendant placed on probation.

Mental Disease Clearing House.—Massachusetts has begun at a cost of $500,000 the erection of a State Psychopathic Hospital in Boston which is expected to be in full operation in about a year. The institution is to be the receiving, classifying and distributing center for patients ill with mental diseases. The hospital expects to keep about one hundred patients, regularly in the wards, the other 1,400, which it

expects to receive, being sent elsewhere for treatment suited to the separate needs of the individual.

Personal.—Dr. Osmyn Baker has been reelected city physician of Northampton.——Dr. George G. Sears, Boston, is recuperating in Los Angeles after a severe illness.——Dr. Thomas F. Leen has been elected a member of the school committee of Boston.——Dr. Thomas F. Harrington has been appointed physician in chief of St. Elizabeth's Hospital, Boston; Dr. Michael J. Cronin, assistant; Dr. William A. Brooks, head of the surgical staff, and Dr. Edward A. Supple, assistant. A new site has been purchased for the institution in Brighton.

Money to Hospitals.—A bequest of $25,000 to the Holyoke City Hospital is contained in the will of the late William Whiting.——Mrs. Sarah H. Swan has in her will bequeathed $5,000 to the Cambridge Hospital.

MICHIGAN

Free Beds for Students.—Dr. Frank W. Smithies has placed two beds in his private hospital, Ann Arbor, at the disposal of needy students of the University of Michigan. The only restriction is that patients with contagious diseases will not be admitted.

Health Officer Fined.—Dr. Myron A. Patterson, health officer of Flint, is said to have been convicted, January 21, of "wilfully and maliciously exposing Under Sheriff Frank Green to small-pox," during the epidemic in November, and to have been sentenced to a fine of $25 with the alternative of imprisonment in jail. Dr. Patterson resigned as city health officer, January 23, and the resignation was accepted to take effect January 30.

Personal.—Dr. G. Carl Huber, professor of Histology and embryology in the University of Michigan, Ann Arbor, resigned as secretary of the Department of Medicine, January 19, to accept the headship of the new department of embryology for the Wistar Institute of Anatomy, Philadelphia. Dr. Charles W. Edmunds, professor of therapeutics and materia medica, has succeeded Dr. Huber as secretary of the department.——Dr. John F. Byington, Battle Creek, who has been seriously ill with erysipelas, is reported to be improving.——Dr. Bion Arnold, Denton, while crossing the car tracks in the village, January 22, was struck by a car and seriously injured.——Dr. Elmer L. Eggleston, Battle Creek, has returned from Europe.——Dr. Burt R. Shurly has been elected vice-president of the Detroit Tuberculosis Sanatorium and Drs. Charles G. Jennings, Burt R. Shurly and Herbert M. Rich have been elected members of the board of directors.

MISSOURI

Suit Dismissed.—By agreement, the suit of the state, at the instance of Dr. William F. Kuhn, against the board of managers of State Hospital No. 2, St. Joseph, for $250 and his living expenses as superintendent of the hospital was dismissed, January 17, at the defendant's cost.

Personal.—Dr. William G. Cowan, formerly of Sedalia, is reported to be critically ill with pneumonia at his home in Carlsbad, New Mexico.——Dr. John Ashley, Bloomfield, has resigned as a member of the State Board of Health.——Dr. Milton P. Overholser, Harrisonville, has been elected superintendent of State Hospital No. 3, Nevada.

Conviction for Abortion.—In the case of Dr. G. Emil Dargatz, Kansas City, charged with the performance of a criminal operation, which caused the death of Mrs. Marion Hawkins, last September, the jury in the criminal court is said to have found the defendant guilty and a sentence of imprisonment in the county jail and a fine of $50 was imposed, January 13.

NEW YORK

To Have Women Interns.—Women have been substituted for men in the Hempstead Hospital, of which Mrs. O. H. P. Belmont is president.

Election.—The Fulton Physicians and Surgeons' Association, at its annual meeting, January 18, elected the following officers: president, Dr. Edward M. Anderson; vice-president, Dr. Harriet M. Doane; secretary-treasurer, Dr. Sylvester D. Keller, and censors, Drs. Frank E. Fox, Willis M. Wells and Harvey J. Trepening.

Personal.—Charles F. Wheelock, who was formerly chief of the examinations division of the state Department of Education, Albany, has been promoted to the position of second assistant commissioner of education. The new chief of the examinations division is Mr. Harlan H. Horner, to whom all requests for information regarding state license examinations should be addressed.——Dr. Thomas W. Salmon, passed assistant surgeon, U. S. P. H. and M.-H. Service, has been appointed a member of the board of alienists by the New York State Commission in Lunacy.

New York City

Harvey Society Lecture.—The fifth lecture in the Harvey Society course, by Dr. Thomas B. Osborne of the Connecticut State Agricultural Experiment Station, February 4, is on "Chemistry of the Proteins."

Personal.—Dr. Joseph L. Hicks, Flushing, L. I., has been appointed physician emeritus to the Flushing hospital. Dr. Hicks is about to retire from active practice.——Dr. Elizabeth A. Bruyn, Brooklyn, has been appointed ambulance surgeon to the Williamsburg hospital.

Sanatorium for Hebrew Children.—At the annual meeting of the officers and directors of this institution it was reported that 3,680 mothers and children were cared for during the last summer and 11,476 mothers and children were taken on boat and railroad trips to summer resorts. Although so many were treated during the summer there were only six deaths in the institution.

Verdict Against Physicians.—A verdict was returned, January 10, against Dr. George T. Steward, formerly superintendent of the Metropolitan Sanitarium, Blackwell's Island, and Dr. Ralph W. Thompson, for performing an autopsy without authority. The plaintiff admitted signing a permit for the autopsy, but said that the physicians had told her that this was necessary before she could remove her sister's body.

Bequests.—The appraisal of the estate of John Stewart Kennedy, who died Oct. 31, 1909, shows the amount to be distributed as $65,659,000 of which $2,858,000 is given to the Presbyterian Hospital.——William F. Wardwell, formerly president of the New York State Red Cross Society, in his will bequeaths $100,000 to the New York Red Cross Hospital, contingent on the death of his widow, and on condition that the hospital use no alcohol in any form in the treatment of its patients.

NORTH CAROLINA

Laboratory for Sanatorium.—The Charlotte Sanatorium has obtained a permit for the erection of a clinical and pathologic laboratory.

Personal.—Dr. Joseph Graham, Durham, announces his retirement from general practice and his intention to devote himself entirely to surgery.——Dr. Edwin G. Moore, Elm City, has resigned as director of the State Hospital for Colored Insane, Goldsboro, and has been appointed a director of the State Hospital for Insane, Raleigh.——Dr. Thomas A. Mann, Durham, was seriously injured by coming in contact with a barb-wire fence, January 16.

Hookworm.—Dr. John A. Farrell, assistant secretary of the State Board of Health in charge of the hookworm work in the state, has issued a summary of his work up to January, which shows that 14,000 cases of the disease have been treated; approximately 50,000 people have been informed in public lectures of the symptoms and the effect of hookworm infection; 34,000 school children have been visited and inspected and reports have been received from 838 practitioners relative to the existence of hookworm in their practice. Of 5,552 microscopic examinations of human feces, 42 per cent. were found to be infected with hookworm.

NORTH DAKOTA

District Society Meeting.—At the annual meeting of the Northwestern District Medical Society, held in Minot, January 21, the following officers were elected: president, Dr. Archibald D. McCannel, Minot; secretary-treasurer, Dr. G. Roy Ringo, Minot; censor, Dr. Joseph T. Newlove, Minot; delegates to the state society, the president, and Dr. E. W. Blatherwick, Drake, and alternates, Drs. Andrew Carr, Minot, and F. A. Brugman, Drake.

OHIO

Personal.—Dr. Lewis Kahn has been reappointed a member of the health board of Columbus.——Dr. Thomas E. Craig, Sabina, has retired from practice and gone to Florida to recuperate.

Tablet Unveiled.—On the occasion of the semi-annual clinic at St. Vincent's Hospital, Toledo, January 19, the memorial tablet to Dr. James Donnelly given by the medical staff of the hospital was unveiled.

Failure to Report Diseases.—Nine physicians of Cleveland have been summoned to appear before the health board to explain their failure to report cases of communicable diseases. In most instances, the disease not reported was pneumonia.

Cincinnati

Clinical Society Meeting.—The Clinical Society of the Cincinnati Hospital at its first meeting, January 19, elected Dr. Frederick Forchheimer, president, and Dr. Simon P. Kramer, secretary-treasurer.

Personal.—Dr. Christian R. Holmes has been appointed a member of the commission to build the new city hospital.——Dr. August C. Busch, Hyde Park, has been elected state medical director of the Catholic Knights of Ohio.——Dr. Asa B. Isham has been elected president; Dr. Byron L. Stanton, vice-president; and Charles L. Bonifield, secretary of the board of medical directors of the Cincinnati Hospital.

PENNSYLVANIA

Philadelphia

Tuberculosis Talks in Public Schools.—The Board of Education has arranged for a series of lectures, through the generosity of the Pennsylvania Society for the Prevention of Tuberculosis, to be given in several elementary schools. The lectures will deal with personal and civil hygienic measures necessary in order to eradicate the disease.

Open-Air Schools Postponed.—Plans for the establishment of the open-air schools in Philadelphia for children, affected with tuberculosis, have been given up for the time, because of lack of funds. However, physicians are making an inspection of the public school children to ascertain the number affected with tuberculosis in any stage, as well as anemic and undernourished children, who would be fit candidates for such schools.

Personal.—Samuel Bell, Jr., was elected a trustee of the Medico-Chirurgical College, January 16.——Dr. Allen J. Smith, dean of the Medical School of the University of Pennsylvania, was the guest of honor at the annual smoker of the alumni of Scranton December 27.——Dr. J. Chalmers DaCosta has been appointed visiting surgeon to St. Joseph's Hospital.——Dr. Alfred Stengel has resigned as visiting physician of the Philadelphia General Hospital, and Dr. William Pepper has been appointed his successor.——Dr. Samuel G. Dixon has been elected a trustee of the University of Pennsylvania.

Blockley Short of Funds.—When Councils' Finance Committee appropriated $75,000 to the Department of Health and Charities for the labor roll at the Philadelphia General Hospital and Almshouse, it provided nothing for material, and this will necessitate laying off about 75 employees. The same condition existed last year but later Councils appropriated $10,000 for materials. The sum of $150,000 was asked for the construction of a new boiler house and boilers, but only $15,000 was given. Councils did give the department money for the installation of new automatic fire alarm system for the general hospital.

UTAH

Official Organ for State Association.—The Utah State Medical Association has completed arrangements with *Northwest Medicine* by which the latter—instead of the *Denver Medical Times*—will serve as its official journal for the ensuing year. The association, therefore, will not have a separate official organ as THE JOURNAL was at first informed.

WASHINGTON

Elections.—King County Medical Society, at its annual meeting, January 2, elected the following officers: president, Dr. George B. McCullough; vice-president, Dr. Harrison A. Wright; secretary-treasurer, Dr. Herbert E. Coe, and delegates to the state association, Drs. Frank M. Carroll, George B. McCullough; George N. McLoughlin, Frank T. Maxson, Richard J. O'Shea, Richard W. Perry and C. Benson Wood, all of Seattle.——Whatcom County Medical Society, at its annual meeting in Bellingham, elected the following officers: Dr. Fred V. Shute, Bellingham, president; Drs. Frank A. Wheaton, Bellingham; Eugene S. Clark, Sumas, and Charles S. Hood, Ferndale, vice-presidents; Dr. Ernest D. Hatch, Bellingham, secretary; Dr. Edward C. Ruge, Bellingham, treasurer, and Drs. Lemon R. Markley and Hays A. Compton, Bellingham, delegates to the state asociation.

WISCONSIN

Personal.—Dr. Edward C. Schnittker, Milwaukee, sentenced to imprisonment for six years and revocation of license in February, 1908, on account of the performance of a criminal abortion, has been on parole for a year past and was unconditionally pardoned by the governor, January 12.

The Hospital Question in Milwaukee.—The Milwaukee County Medical Society disapproves of the proposed purchase of the Schandein house as a maternity hospital on account of the impossibility of remodeling the building into a modern hospital. An isolation hospital for children suffering from contagious diseases is considered the great need of the city, and Pabst Park has been suggested as a site for this institution.

Medicine Sample Kills.—The jury in the case of Martin O'Donnell, Oconto, versus the M. W. Marshall Medicine Company, Fond-du-Lac, is said to have returned a verdict for $666 for the plaintiff, and also to have found that a relative of the defendant had been guilty of contributory negligence. An agent of the defendant company had distributed samples of a rheumatism medicine in Oconto, and a small daughter of the plaintiff fed an infant the contents of the bottle left at the house by the distributor, resulting in the death of the baby.

Society Meetings.—The Seventh District Medical Association, at its annual meeting in LaCrosse, December 22 and 23, elected Dr. Eugene H. Townsend, New Lisbon, president; Dr. Edward F. Christian, LaCrosse, vice-president; Dr. Charles H. Marquardt, LaCrosse, secretary.——At the annual meeting of the Eau Claire District Medical Society, Dr. Ralph R. Chase, Eau Claire, was elected president, and Dr. Everett L. Mason, Eau Claire, was reelected secretary-treasurer.——Rock County Medical Society, at its meeting in Beloit, December 27, elected Dr. George W. Fifield, Janesville, president; Dr. William J. Allen, Beloit, vice-president; Dr. Eduards B. Brown, Beloit, secretary-treasurer, and Dr. Frank W. Van Kirk, Janesville, censor.——Twin City Medical Society, at its annual meeting in Menasha, January 3, elected the following officers: president, Dr. Samuel G. Todd, Neenah; vice-president, Dr. Frank M. Corry, Menasha, and secretary-treasurer, Dr. Samuel D. Greenwood, Neenah.——At the annual meeting of Douglas County Medical Society, held in Superior, Dr. Fred G. Johnson, Iron River, was elected president; Dr. Thomas J. O'Leary, Superior, vice-president; Dr. Royal K. Lohmiller, Superior, secretary-treasurer, and Dr. Charles H. Mason, Superior, censor.

FOREIGN NEWS

The Indian Ambulance Gazette.—With the beginning of the new year the Indian branch of the St. John Ambulance Association began the publication of an official organ named the *Indian Ambulance Gazette.* This association, under the emblem of the white cross, has organizations throughout the world for rendering public first aid in time of pestilence, great disasters or war, similar to the organization of the Red Cross. The Indian branch was organized in 1887 and has grown encouragingly so that an official organ became necessary in carrying out its purposes. The gazette will be published quarterly. The first number contains a considerable fund of information, historical and otherwise, as well as the late news of the organization in India and other parts of the world.

Plague in the Far East.—Cabled news in the daily papers indicates that the plague situation in China has become no worse during the past week. The state department is said to have cabled the American minister at Pekin to ask medical missionaries to volunteer in response to the invitation of China to the leading powers of the world to send commissions of medical experts to study the plague and help combat it. The department is also to take up the question with the navy and treasury departments with a view of obtaining the services of naval surgeons and members of the Public Health and Marine-Hospital Service. The Pacific coast of the United States is being vigilantly guarded and the Japanese are also on the alert. The work of fighting the plague is said to have fallen almost entirely on the foreign medical missionaries in China and they are bravely grappling with the task. In the two northeastern provinces of China, where Pekin is situated, there are said to be thirty-seven hospitals and thirty-five dispensaries in charge of foreign medical missionaries; fifty are Americans, including twenty-four women. The two districts have a long and diversified coast frontage and are bounded on the northeast by Manchuria where the plague is raging. The two districts extend about 700 miles north and south and about 500 miles east and west, an area nearly four times that of New York state, with a population six times that of the state. The hope of a racial immunity to the plague is proving unfounded; two European physicians had died at Harbin from pneumonic plague, the type prevailing there now, and one Japanese physician by January 28.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 21, 1911.

A Clean Milk Campaign

The National League for Physical Education and Improvement has started a "clean milk campaign." Recognizing that few matters are of greater importance in promoting the health of the nation than a pure milk-supply, the association has determined to make an effort to impress on farmers, milk retailers and consumers alike the necessity for certain precautions with regard to the distribution and consumption of milk. A series of leaflets addressed to each of these classes has been adopted for circulation by a considerable number of public bodies.

Sir Francis Galton

Sir Francis Galton, F.R.S., died at Haslemere, Surrey, January 17, in his 89th year, from bronchitis complicated by congestion of the lungs. He was born in Warwickshire and was a cousin of the author of the "Origin of Species." While second only to Charles Darwin in eminence as a biologist he surpassed him in versatility. Taveler, meteorologist and anthropologist, he made his mark as a writer on all these subjects. On his father's side he was of ancient Quaker stock. By the wishes of his parents he studied medicine but at the age of 22 he found himself, on the death of his father, with a fortune sufficient to render him independent and began traveling. He went through Egypt and explored a large part of Africa for which he was rewarded with the gold medal of the Geographical Society. In 1855 he wrote "The Art of Travel, or Shifts and Contrivances Available in Wild Countries," which has been a *vade-mecum* to travellers ever since. In 1861 he turned his attention to meteorology and described a method of recording the state of the weather over a wide area by means of charts, and this method has been used by meteorologists ever since. In 1862, he introduced the term anticyclone which figures so frequently in modern meteorologic reports.

His name, however, is best known in connection with anthropology. The distinguishing feature of his work was the use of statistical methods. In 1869, he published "Heredity and Genius" in which he aimed to show that genius was mainly a matter of ancestry. In 1874, appeared "English Men of Science: Their Nature and Nurture" which was suggested by de Candolle's book analyzing the salient events in the history of 200 men who had lived in the preceding two centuries. In the next year he drew up two sets of forms which he hoped would lay the foundation of the practice of maintaining trustworthy life histories that would be of medical service in afterlife to the person keeping them, and would promote the registration of much information at present wasted, and assist future inquiries into the problems of heredity. One of these, the "Record of Family Faculties," contained tabular forms to facilitate the collection of facts which are important to a family from a hereditary point of view and which may be used to forecast the mental and bodily development of future generations. The other, a "Life History Album," afforded a continuous register of the principal biologic facts of its owner. In 1904, appeared a study of the distribution of successes and of natural ability among the kinsfolk of fellows of the Royal Society. In 1901, he initiated the science which he termed "eugenics." He applied his studies in heredity to a discussion of the possibility of improving the human race under existing conditions of law and sentiment. He aimed at putting the problem of race improvement on a scientific basis, and showed statistically that economy of cost and labor in improving the race must depend on attention to parentage. He also applied himself to many other statistical and anthropologic studies. For example, he carried out a statistical inquiry into the efficacy of prayer and came to a decidedly negative conclusion. The question of visions also engaged his attention. He concluded that, however obscure and ill-explained they may be, they belong for the most part if not altogether to "an order of phenomena which no one dreams in other cases of calling supernatural." He further suggested that in view of the vast multiplicity of mental operations in simultaneous action, much of what passes for supernatural is merely the result of one part of the mind being contemplated by another part, as if it were that of another person. His system of composite portraits, which is a process of pictorial statistics which yields an average analogous to that of arithmetic, is now well known. Thus, if the portraits of a number, say of consumptives or criminals of a particular kind are optically superimposed, individual peculiarities are eliminated and the result may be looked on as the type of the class.

To the study of finger prints with which his name is so closely associated his attention was drawn while preparing a lecture on Bertillon's anthropometric method in 1888. He realized the importance of the papillary ridges as anthropologic data. He analyzed the forms and patterns of the ridges, discussing their evidential value by the laws of probability, and investigated their significance (which was far less than he expected) as indications of race and temperament. In 1895, appeared "Finger-Print Directories" in which he showed how finger prints might be used to identify a person. This method, combined with Bertillon's primary measurements, has been adopted for criminals by many governments.

A Doctor's Heroism in a Railway Accident

Details have reached England of a disastrous railway accident at Gaika's Loop, Cape Province, South Africa, in which twenty-three persons were killed. A crowded holiday train, the passengers being chiefly women and children, was returning from East London. The train was traversing a curved embankment about 15 feet high across a gully, when six coaches toppled over to the bottom of the embankment, the couplings snapping. The accident occurred in inky darkness in a wilderness miles from help. Rescuers worked with hand lamps from the train and a bonfire made of the débris of the wrecked coaches. One of the passengers was Dr. Robertson of Cathcart, who had three ribs broken. Despite this he was carried from place to place directing the treatment of the injured until he fainted from pain and exhaustion. The survivors declare that he deserves the Victoria Cross. There was another physician in the train but he was pinned down and helpless for three hours.

The Abuse of Hospitals by Out-Patients

The perennial grievance of the profession that the out-patient departments of the hospitals are largely attended by patients able to pay for medical advice at last is to receive systematic investigation by hospital authorities. The King's Hospital Fund (an institution founded by the late King Edward to raise money for the hospitals, which annually dispenses hundreds of thousands of pounds and has considerable influence over hospital administration) has appointed a committee to consider and report generally regarding circumstances and conditions under which patients are admitted to the casualty and out-patient departments of hospitals, and especially the precautions taken to prevent admission of unsuitable patients. In connection with this investigation the London and County Medical Protection Society (a society of physicians for defending actions brought by unscrupulous patients for the recovery of damages for alleged malpractice, and otherwise protecting professional interests) has issued a circular requesting its members to supply evidence on the following points: (1) abuse of out-patient departments by persons able to pay for medical services; (2) attendance of patients whose ailments are unsuitable for treatment in that department; (3) difficulties experienced by suitable patients in obtaining within a reasonable time admission to the medical officer on duty in that department; (4) loss caused to physicians by the competition of out-patient departments. Full, accurate and detailed statements as to specific cases are requested and not vague generalities.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 13, 1911.

First-Aid Societies and Physicians

For some time there has been a certain ill feeling in the medical profession toward the societies for rendering first aid in emergencies. The practitioners reproached these societies with having departed from their original aims to enter into an improper competition with the medical profession. The Société française de secours aux blessés militaires has founded, in Paris, a hospital-school and a series of fifty-one dispensary schools in Paris and in the provinces. These establishments, while intended to prepare their pupils to be of service in time of war, are meanwhile doing a philanthropic work. According to the reports of the society more than 300,000 free dressings were distributed among the poor by the dispensary schools; but physicians are informed that, in reality, it is not the poor alone who receive dressings and care of all kinds and for all diseases, but any one whatever. Moreover, ladies with diplomas from such societies give electric treatments or vaccinations, make injections of physiologic serum or of sea-water, treat whitlows or give advice which

may at least embarrass the physician, by directly or indirectly diminishing his patients' confidence.

Salvarsan in Ocular Syphilis

Dr. de Lapersonne, professor of clinical ophthalmology at the Faculté de médecine de Paris, on January 10, made, with Dr. A. Léri, a report on the use of salvarsan in ocular syphilis. Their results tend to show that there is no reason to magnify the harmful effects of salvarsan on the eyes. One of the principal reasons is that the mode of application in one or in several injections, at intervals, when the elimination through the kidneys is finished, is altogether different from that of the other arsenical preparations, such as atoxyl, which are used in repeated doses and which produce more or less rapid toxic retrobulbar neuritis. As for the efficacy of the drug, Drs. de Lapersonne and Léri agree that salvarsan acts very favorably and very quickly in certain simple cases of iritis or of interstitial keratitis, but that it is powerless, as might be supposed, in those forms of iridochorioiditis of which the causes are frequently multiple and of which the consequences are so serious to all parts of the eye. In recent cases of optic neuritis and of ocular paralysis, these observers are encouraged to inject large quantities in view of the remarkable but transitory amelioration that they have obtained. Since this improvement did not persist, there would have been reason to renew the injection, if the examination of the urine, made after the first injection, had shown the permeability of the kidneys. Like many other observers, Drs. Lapersonne and Léri have observed after a single injection, sometimes relapses, sometimes new outbreaks of ocular neuritis, in particular, two months or even a month after the treatment.

Death of Dr. Hocquart

Dr. Hocquart, director of the Ecole du service de santé militaire de Lyon, has just died, aged 58. Dr. Hocquart served in the campaigns of Tongking and Madagascar. He was director of the service of military hospitals at Clermont-Ferrand.

The Refilling of Medical Prescriptions

In one of my previous letters (THE JOURNAL, Aug. 7, 1909, p. 468) I mentioned the case of a certain Vallanet, a self-styled doctor who illegally practiced medicine without a diploma in Paris for more than ten years. Vallanet has recently been sentenced to pay damages of $400 (2,000 francs) each to the Syndicat des médecins de la Seine and to the Syndicat médical de Paris, both of which were civil parties to the prosecution. The pharmacist who filled his prescriptions was also prosecuted, and the question of refilling prescriptions, especially those calling for poisonous substances, came up. The pharmacist in his defense cited the common practice of refilling prescriptions. The court did not admit this line of defense. Even though there exists among pharmacists a regrettable custom of refilling old prescriptions which contain only harmless substances, according to the French law, poisonous substances can be sold for use in medicine only by pharmacists and on the prescription of a physician, which must be dated. The pharmacist was fined $100 (500 francs) for delivering poisonous substances without a new prescription. The decision is an important one, as it tends to restrain the practice of refilling prescriptions.

Reorganization of the Medical Course

A delegation from the Association corporative des étudiants en médecine called on the minister of public instruction and the director of higher education to learn the conditions of the application of the decree of Jan. 11, 1909, with regard to the reorganization of the medical course (THE JOURNAL, March 13, 1909, p. 902); to which a fifth year has now been added. The first question is whether the students of the P. C. N. (certificate of physical, chemical or natural studies required as a preliminary of medical candidates) are students in medicine. If they are, it would be difficult to demand that P. C. N. students who enter the medical schools at the time when the new régime is put in force should take five years, as this would make the new decree retroactive. If those who are now students for the P. C. N. are not yet medical students, they should take five years.

In regard to the hospital *stage*, nothing will be changed in Paris. At present there are in Paris twenty professors of various clinics, but thirty physicians or surgeons of the hospitals are authorized to receive *stagiaires* and to accept fees. The students would like to have the privilege of enrolling themselves in any of the hospital services. The director of higher education believes that this desire can scarcely be reconciled with the necessities of instruction. He says that the reform will be put in force as soon as the sum of $300,000 (1,500,000 francs) becomes available for the needed increase of the equipment of the laboratories and of the auxiliary teaching force.

Epilepsy and Constipation

On December 27, Dr. E. Doumer, professor at the Faculté de médecine de Lille, made an interesting report to the Académie des Sciences, on the rôle of constipation in the pathogenesis of epilepsy. Professor Bouchard had expressed a belief in a very close relation between epileptiform phenomena and imperfect intestinal functioning, and Doumer reported some cases in which therapeutic results seemed to confirm this belief. A child of 7, who for a year had had crises of epilepsy almost every day, suffered also from a very pronounced condition of mucomembranous enterocolitis, for which a severe régime had been carried out for six months without result. Doumer gave the little patient abdominal treatment by intense percutaneous galvanization, and after the third treatment, not only did the stools become normal, but the crises of epilepsy became less frequent and disappeared at the end of three weeks. The cure has been maintained for seven years.

The result was equally good in two other epileptics, aged 19 and 21 respectively, who also suffered from constipation. It goes without saying that the administration of bromids was stopped entirely from the time the electric treatment was begun on the three patients, Dr. Doumer confining himself to prescribing as adjuvant treatment a diet rich in vegetables and poor in meat and entirely cutting off alcohol.

The Medical Direction of Insane Asylums

At a recent session of the general council of the department of the Seine, the council was reminded that long ago it passed a resolution that each asylum should have a physician as its head, as is the case in most foreign countries. In France, by a curious anomaly, the superintendency of these asylums is considered by the ministry of the interior, which has the power of nomination, as a resource to provide for political derelicts. Hence it happens that the men appointed to these posts frequently have none of the special knowledge requisite for the work. Because of the disadvantages which arise from the division of responsibility, the necessity was conceded of uniting the medical and administrative directorship in superintendents chosen from among specially qualified physicians selected by special examination. To make this resolution effective, the general council has adopted the course of voting the salary of the administrative superintendent for only six months of 1911. Thus if a position of administrative superintendent becomes vacant, the government may, if it wishes, appoint a non-medical man, but he will not be paid, for the general council will vote the second part of the salary to the acting superintendent, but will refuse to pay the new superintendent.

Budget of the Public Charities

The budget of the Public Charities this year amounts to $16,200,000 (81,000,000 francs), a sum much greater than those of preceding years. The floods in 1910 occasioned an outlay of $348,500 (1,742,500 francs). In 1910 the increased cost of provisions was felt, the results being naturally more considerable because they affect an enormous consumption. The same condition will have to be reckoned with in 1911. The strictest economy is recommended; and it is believed that there are abuses which a more rigorous oversight would check; for instance, the consumption of gauze for dressings in 1909 was six times what it was in 1890.

Liability of a Pharmacist for Damages for Having Given Medical Advice

A cook, having fallen on her shoulder, went to a pharmacist for a lotion and the address of a physician; the pharmacist's clerk gave her the first, but persuaded her that she did not need the second. He also assured the cook's employer that there was no reason for anxiety and that the cook would be able to return to work in eight days. After eight days, however, the swelling had not diminished and a physician was sent for who diagnosed a luxation of the shoulder, necessitating a surgical operation because of the length of time that had elapsed since the accident. The cook therefore brought suit against the pharmacist, first for the reimbursement of the expenses which she had incurred, amounting to over $400, and a similar sum as damages. The court sustained her claim.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 12, 1911.

Personal

Professor Mosler, formerly director of the clinic for internal medicine in Greifswald, died January 7, aged 79. He joined the faculty of Giessen as privat-docent in 1858 and was chosen in 1864 as regular professor at Greifswald. In 1899 he retired, not voluntarily but at the request of the minister of education because it was established that Mosler's activity in investigation and in teaching did not any longer meet the necessary requirements. The scientific studies of Mosler were carried on in various fields but none of them produced any notable results. He treated the subject of diseases of the spleen in Ziemssen's "Handbok of Special Pathology," and of animal parasites in Nothnagel's "Practice."

A Woman Not Admitted as Privat-Docent

Membership in the faculty as privat-docent is not permitted to women in the states of the German federation. Heretofore there has been scarcely a request of this sort, but recently a lady, first assistant in the hygienic institute at Bonn, who had lately received the honorary title of professor from the minister of education, was sustained in her request for permission to become a lecturer by the medical faculty of that university. In spite of this, however, the department refused the request.

Protection of Medical Professional Secrets in Hospitals

A short time ago attention was called in the press to the fact that the medical secret was infringed by the writing of the diagnosis on the history sheets to be found at the head of the beds in the hospital wards, inasmuch as it is easy for the relatives of the patient or strangers to find out the meaning of the Latin name of the disease and use this knowledge to the injury of the patient. Recognizing the justice of this complaint, the city authorities have ordered that in the internal department of the municipal hospitals the diagnosis shall not be written on the card. In the surgical department the disease shall be indicated with the initials of the Latin names.

Kaiser Wilhelm Society for the Advancement of Science

The society for the erection of institutions for the investigation of natural sciences announced by the Kaiser on the occasion of the centennial of the Berlin university, was founded January 11, under the name of Kaiser Wilhelm Gesellschaft zur Förderung der Wissenschaften. The endowment fund so far available amounts to $2,640,000 (11,000,000 marks). First there will be erected a chemical and a chemicophysical institute at Dahlem near Berlin for which the State of Prussia gives the land. The first institute will be under the supervision of Prof. E. Beckmann of Leipsic and the second under that of Prof. Dr. F. Haber of Carlsruhe. Both institutes will be devoted to pure research and will not serve any immediately practical purpose; their directors are under no obligation to teach. The entrance fee for every member of the new society is $5,000 (20,000 marks) and the yearly dues $250 (1,000 marks).

Workingmen's Insurance in Europe

The report just published with reference to workingmen's insurance in Europe and the present situation of legislation includes the data of the various kinds of insurance and permits a comparison of the expense entailed on trade and commerce by the social insurance in various states. From this review, it appears that only the small state of Luxemburg can be placed on the same plane as Germany in its workingmen's insurance against illness and accident. Invalid and old age insurance is also soon to be inaugurated in Luxemburg. Obligatory insurance for illness exists outside of Germany only in Austria-Hungary, Norway and Luxemburg. France has compulsory insurance for miners only. The rest of the states, particularly Italy, Great Britain, Belgium, Sweden, Denmark, Finland, Spain and the Netherlands have voluntary sick insurance for wage-earners and employees. In Germany, Austria-Hungary and Luxemburg the employers bear one-third and the employees two-thirds of the burden, while with voluntary insurance, the expense is principally borne by the laborers with state aid, as in Italy, France, etc.

Norway has an obligatory sick insurance for laborers and employees of all trades with a yearly wage up to $390; the expense is borne six-tenths by the laborers, two-tenths by the state, one-tenth by the municipality and one-tenth by the employers.

The data regarding accident insurance are not so complete. Compulsory insurance against accident in Germany extends to all laborers and employees with a yearly wage to $750, in industry and agriculture. In a population of 63,000,000 in 1908, there thus were 23,700,000 persons insured against accident. Besides Germany, Austria-Hungary, Italy, France, Norway, Denmark, Finland and the Netherlands have industrial and agricultural accident insurance, the income limit ranging from $150 in Finland to $750 in Luxemburg; it is $500 in Germany. As is well known, invalid and old age insurance was until lately provided only in Germany. By a law passed April 5, 1910, it was also introduced into France. It will extend to all wage-earners and employees with a yearly wage up to $600 (2,400 marks). The expenses will be borne as in Germany half by the employers and half by the employees. In addition the state will provide a contribution of $12 (48 marks) for every annuity. The number of those compulsorily insured will amount to about 11,000,000. In Germany 15,200,000 or 24.1 per cent. of the entire population are insured against old age and invalidism. The expenses are $46,100,000 (184,400,000 marks), or $3 (12 marks) for each insured. Of the remaining European states only Austria-Hungary and Belgium have a compulsory insurance for miners. In Italy, Great Britain, Finland and Spain, there is also voluntary insurance; the expense is met by the premiums of the insured with additional sums paid by the state.

Infant Mortality in Germany

The infant mortality in 1909 in Germany was unusually favorable; 335,436 children of less than one year of age died, while the number in 1908 was 359,022, in 1907, 351,046 and in 1906, 374,636. There was a reduction compared with the previous year of 23,586. Among the deaths there were 288,202 (in 1908, 308,630) legitimate and 47,228 (50,342) illegitimate children. It might be assumed that the reduction of infant mortality could be referred to the general decrease of births, but a comparison of the number of births with that of deaths in the first year shows that the deaths have proportionately been very much reduced. Of a hundred born living in 1909, 17 died the first year as compared with 17.8 in 1908, 17.6 in 1907 and 18.5 in 1906. Among legitimate children, the proportion was 16 as compared with 16.8, 16.6 and 17.5; among illegitimate 26.8 as compared with 28.5, 28.0 and 29.4. The fact that even among illegitimates the infant mortality has been so much reduced is a gratifying sign of the success of infant hygiene. The fact that boys are more liable to die than girls is confirmed by the figures for 1909. The percentage of deaths among boys for a hundred births was 18.4 (1908, 19.4), of girls 15.4 (16.2). Considering the individual states, Bavaria presents the most unfavorable statistics, 21.7 in 1908, and Lippe the most favorable, 10.5 (11.1). In Berlin the rate was 15.6 as compared with 16.8 in 1908, 16.3 in 1907, and 17.7 in 1906.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 19, 1911.

The New Tax on the Dispensing of Drugs

A short time ago the so-called *Arzneitaxe* (tariff for pharmaceutic substances) was promulgated by the government. This official tariff is compulsory for all apothecaries in this empire, and in accordance with the increased cost of living, its items have been raised a little. The *Taxe*, as it is called, divides the consumers of the articles sold by the apothecaries into two groups. The larger group—the general public—must not be charged less than the tariff stipulates, so as to insure a uniform dealing with all customers. The other group consists of charitable institutions and sick-benefit clubs which may obtain 10 to 30 per cent. discount. For each dispensing (selling) the chemist must charge 20 hellers (4 cents); for each mixing of liquids or ointments double that amount; for dividing a substance into ten powders at least 50 hellers (10 cents); and as much for each infusion, while all manipulations, including the boiling of substances, must be charged for at the rate of 80 hellers (16 cents) as well as the rolling of pills up to 100. For the weighing of quantities of centigrams a slight additional tax is charged, and for smaller quantities than that, the additional tax is doubled. A certain charge is fixed for the containing vessels, jars, boxes, bottles of different sizes and colors and for paper bags. As the sale of remedies after a doctor's prescription is confined to the apothecaries and certain—or rather most—of the potent drugs may not be sold at a usual chemist's shop, the apothecaries are controlled by the state and are subject to the tariff. Therefore, the making up of a prescription is fairly expensive here and public opinion is much opposed to the present system.

The Austrian Census

On Dec. 31, 1910, a census of the population of Austria was taken, as is here the custom every ten years. The results are not yet known for the whole empire, but those pertaining to Vienna are already published. The most noticeable fact is that the increase in the population has not been as great as was calculated. The actual figures for the day mentioned above was 2,004,921, which gives an increase of 302,212 over that found in 1900. The yearly increase of population in the ten years 1880-1890 was 2.51 per cent.; in the years 1890-1900 it was 2.28 per cent., while from 1900 to 1910 it was less than 2 per cent. per annum. This is due to two reasons: the diminution of immigration into the capital and the diminution of the natural increase of population by the surplus of births over deaths. The more important factor is the latter. In 1900 the number of living children born was 52,000. This figure shows a constant fall till last year it was only 45,000. The number of deaths, however, has been fairly constant, in spite of immigration. In 1900 it was 34,672. This in spite of improved sanitation—the Vienna water and drains rank first class among corresponding arrangements of European cities—which saved many a life otherwise endangered. The increase of the population has been chiefly dependent on the birth figures. The bad social and commercial conditions prevailing since 1902 have undoubtedly combined with other factors to bring about the unsatisfactory effect.

A Physician's Fate

Some time ago, a Dr. Franz in an Austrian village reported a case of typhoid fever and had the patient removed to a hospital for infectious diseases. Unluckily, just at that time maneuvers of the army were to take place in this district, and the village of Reidan, where the above-mentioned case occurred, was to have been the headquarters. On account of the typhoid patient this plan was altered and the villagers lost the prospect of pleasure and profit due to the temporary occupation. The grocers and inn-keepers of the village therefore instituted a veritable boycott against the physician. Their influence caused him to lose his appointment as district physician and his practice with the population. Finally his life, his family and his house were exposed to the greatest danger. The people wanted to starve him and his family out for having done his duty. When the infuriated peasants failed to drive the doctor away, actions for damages were brought against him. The excitement was too much for the poor doctor; he suddenly died at the age of 36 from paralysis of the heart. But now the organization of medical practitioners has cooperated and the village is under boycott. It can get no doctor until full provision has been made by the local authorities for the family of the outraged doctor. Furthermore, the government has turned its attention to the matter, so that the guilty will receive punishment. In order to prevent a recurrence of similar events, strict regulations will be made in all cases of appointments of country physicians, in which the duties of the doctor towards public health will be clearly defined. The incident shows what a doctor can expect if the population is of a low standard of enlightenment.

Marriages

DANIEL W. SCOTT, M.D., McDonough, Ga., to Mrs. A. Jennie Utz of Fincastle, Va., January 10.

HERBERT THEODORE WAGNER, M.D., Indianapolis, to Miss Helen F. Bond of Chicago, January 26.

HOWARD ANDREW KNOX, M.R.C., U. S. Army, to Mrs. Gladys Barnett Reed, at Brooklyn, January 10.

BUELL F. MENEFEE, M.D., Jonesburg, Mo., to Miss Flora Baker of Montgomery, Mo., January 17.

CLARENCE R. FARMER, M.D., Elm City, N. C., to Miss Laura Wohlsen of Lancaster, Pa., January 17.

ASHER CADDEN BIDDLE, M.D., Lewistown, Mont., to Miss Mary Besse Allen of Athens, O., January 25.

WILLIAM FLEGENHEIMER, M.D., Guineys, Va., to Miss Meta Huger de Saussure, at Fredericksburg, Va., January 19.

AMOS WILLIS BALL, M.D., Rushville, Ill., to Miss Dorothy M. Chatham of Watertown, Ill., at Princeton, Ky., January 14.

GRAY CHANDLER BRIGGS, M.D., St. Louis, to Miss Louise Edwards of Chicago, more than a year ago, but just announced.

A. H. VAN VOORHIS, M.D., Morgantown, W. Va., to Miss Dannie Protzman of Sabraton, W. Va., at Uniontown, Pa., January 17.

Deaths

Joseph Hill Hunt, M.D. College of Physicians and Surgeons, New York City, 1873; first president of the Department of Mineralogy of the Brooklyn Institute; noted as an archeologist; formerly a member of the Board of Education at Brooklyn; and president of the Kings County Medical Society in 1899; instructor in histology and pathology and assistant in surgery in Long Island College Hospital; associate editor of the *Brooklyn Medical Journal;* professor of materia medica, botany and pharmacognosis in the Brooklyn College of Pharmacy; for six years a member of the Brooklyn Board of Pharmacy; surgeon to the Central Throat Hospital, and pathologist to St. Mary's Hospital; died at his home in Newton, N. J., January 15, from heart disease, aged 62.

George Roswell Dean, M.D. Jefferson Medical College, 1868; a member of the American Medical Association, and Southern Surgical and Gynecological Association; a Confederate veteran; at one time president of the South Carolina Medical Association and Southern Railway Surgeons Association; local surgeon for the Southern Railway Company; medical director of the South-Eastern Life Insurance Company; representative in the South Carolina Legislature in 1886; a member of the State Board of Health and a director of the Spartanburg (S. C.) Hospital; died at his home in that city, January 17, from heart disease, aged 66.

Frank Harcourt Koyle, M.D. Medical Faculty of Queen's University, Kingston, Ont., 1888; M.C.P. and S., Ont.; a member of the American Medical Association, and American Laryngological, Rhinological and Otological societies, and American Academy of Ophthalmology and Oto-Laryngology; oculist and aurist to the Steuben Sanitarium, Hornellsville, N. Y., and to the Erie Railway Co.; special examining surgeon for the United States Department of the Interior; died at his home in Hornell, New York, January 17, from pneumonia, aged 46.

Benoni O. Reynolds, M.D. Rush Medical College, 1851; a member and once president of the Wisconsin Medical Society; surgeon of the Third Wisconsin Volunteer Cavalry, during the Civil War; president of the local board of pension examiners of Lake Geneva for eight years; member of the State Board of Health for nine years; for several terms a member of the Wisconsin General Assembly and Senate; died at his home in Lake Geneva, January 19, from cerebral hemorrhage, aged 86.

Michael Harvey Hennel, M.D. Eclectic Medical Institute, Cincinnati, 1891; a member of the Medical Society of the State of North Carolina; of late years a specialist in tuberculosis; died at his home in Asheville, January 8, from spinal meningitis, aged 42. At a special meeting of the Buncombe County Medical Society, January 9, a committee was appointed to prepare resolutions on the death of Dr. Hennel.

William Joseph Furness, M.D. University of Michigan, Ann Arbor, 1891; a member of the American Medical Association; physician to the Manhattan State Hospital, Ward's Island, N. Y.; and visiting surgeon to St. Joseph's Hospital; died in New York City, January 17, as the result of an accident whereby he backed his automobile into the elevator well of a garage, and was crushed under it, aged 40.

John Upton Riggs, M.D. University of Michigan, Ann Arbor, 1868; Bellevue Hospital Medical College, 1873; a member of the American Medical Association, and formerly president of the Williams County (O.) Medical Society; surgeon to the Cincinnati, Jackson and Mackinaw Railway at Bryan, O.; died in the Mounds Park Sanitarium, St. Paul, Minn., January 17, from nephritis, aged 65.

John Heaton Rerick, M.D. University of Michigan, Ann Arbor, 1853; surgeon of the Forty-fourth Indiana Volunteer Infantry during the Civil War; for eight years clerk of LaGrange County, Ind.; and during President Harrison's administration, postmaster of LaGrange; publisher of the *LaGrange Standard* since 1867; died at his home, January 22, from pneumonia, aged 81.

Charles Olney Ballou, M.D. Harvard Medical School, 1877; a member of the Rhode Island Medical Society; a veteran of the Civil War; for two years a representative to the General Court, Concord, N. H., and also justice of the peace; medical director of the Department of Rhode Island, G. A. R., for two years; died at his home in Providence, January 18, from pneumonia, aged 80.

Susanna Way Dodds, M.D. New York Hygieo-Therapeutic College, New York City, 1864; Dean of the St. Louis Hygienic College; founder and for half a century superintendent of the Dodds Hygeian Home, St. Louis, but for the last seven

years a resident of Yellow Springs, Ohio; died at Long Beach, California, January 20, from senile debility, aged 80.

Francis Augustine Harris, M.D. Harvard Medical School, 1872; since 1877 medical examiner of Suffolk County; demonstrator of medico-legal examinations in his alma mater for 10 or 12 years and for several years professor of surgery in the Boston Dental College; died at his home in Winthrop, January 18, from cerebral hemorrhage, aged 65.

Joshua J. Sweet, M.D. New York University, New York City, 1859; formerly a member of the American Medical Association; who served during the Civil War as an acting assistant surgeon, U. S. Army; pension examiner at Unadilla, N. Y., for thirty-five years; died at his home, January 13, from carcinoma of the stomach, aged 76.

Edwin Faxon Vose, M.D. Boston University School of Medicine, 1876; president of the Maine State Homeopathic Society in 1895; a member of the Maine Academy of Medicine and Maine Board of Registration in Medicine; for six years a member of school board of Portland; died at his home, January 13, from diabetes, aged 60.

Tullio Antonio Rottanzi, M.D. Cooper Medical College, San Francisco, 1877; a member of the medical society of the state of California; formerly a member of the board of supervisors of San Francisco and acting mayor; city physician from 1904 to 1907; died at his home, January 20, from pneumonia, aged 43.

Joseph H. Wills, M.D. University of Pennsylvania, Philadelphia, 1880; a member of the Medical Society of New Jersey; formerly a member of the State Board of Health; district physician of Camden, and a member of the staff of Cooper Hospital; died at his home, January 16, from pneumonia, aged 66.

William Francis McCormick, M.D. Cleveland University of Medicine and Surgery, 1889; for twelve years chief surgeon of the Pacific Coast Coal Company at Franklin and Black Diamond, Wash.; died at his home in Black Diamond, Dec. 22, 1910, from acute dilatation of the heart, aged 52.

Emmett Lee Irwin, M.D. Tulane University, New Orleans, 1888; a member of the American Medical Association; a representative in the Louisiana legislature from 1900 to 1904, and state senator in 1908; died at his home in Clinton, January 15, from acute gastritis, aged 47.

Charles Edward Clark, M.D. Harvard Medical School, 1877; for many years a practitioner of Lynn, Mass.; ferry commissioner of Boston in 1885 and 1886; died at the home of his wife's parents in Passaic, New Jersey, January 20, from acute dilatation of the heart, aged 60.

James S. Berry, M.D. Starling Medical College, Columbus, 1870; a member of the Ohio State Medical Association; one of the organizers and president of the Adams County Chautauqua; died at his home in Peebles, January 15, from heart disease, aged 66.

Jay C. Lovejoy, M.D. Eclectic Medical College of the State of New York, 1879; for several years justice of the peace of the town of Edinburg, N. Y.; died at his home in Batchellersville, N. Y., January 17, from hemorrhage of the lungs, aged about 60.

Edward F. Raymond, M.D. Berkshire Medical College, Pittsfield, Mass., 1859; surgeon of the Thirteenth Battalion, Virginia Artillery, C. S. A., during the Civil War; died at his home in Frankford, W. Va., January 18, from angina pectoris, aged 75.

George A. Beltz, M.D. Medico-Chirurgical College of Philadelphia, 1907; a member of the Medical Society of the State of Pennsylvania; of Greensburg; died in the Allegheny General Hospital, Pittsburg, January 14, from abscess of the brain, aged 28.

John Woodward Gould, M.D. Albany (N. Y.) Medical College, 1880; who has been connected with the Delaware, Lackawanna and Western Railroad for twenty years; died at his home in Newark, N. J., January 18, from angina pectoris, aged 72.

Charles Elmer McCormick, M.D. Pulte Medical College, Cincinnati, 1899; a clerk in the Columbus Post Office; formerly a practitioner of Wellston, Ohio; died at his home in Columbus, January 20, from purpura hemorrhagica, aged 46.

Joshua R. Morton, M.D. University of Pennsylvania, Philadelphia, 1871; president and for several years a member of the Allentown, Pa., school board; died at his home in that city, Oct. 9, 1910, from tuberculosis of the lungs, aged 60.

Charles Lewis Anderson, M.D. Indiana Central Medical College, Greencastle, 1852; an authority on marine botany; for many years a school trustee of Santa Cruz, Cal.; died at his home Dec. 22, 1910, from senile debility, aged 82.

Charles William Schwartz, M.D. Hahnemann Medical College, Philadelphia, 1880; from 1877 to 1889 district physician of Albany County, N. Y.; died at his home in Whitehall, January 17, from cerebral hemorrhage, aged 51.

William Rollo Kinmouth, M.D. College of Physicians and Surgeons, New York City, 1872; a member of the Medical Society of New Jersey; died at his home in Farmingdale, January 11, from pneumonia, aged about 70.

Charles Francis Boyden, M.D. University of Michigan, Ann Arbor, 1896; for several years assistant physician of the Gilbert Sanitarium, Evansville; died in that institution, January 20, from pneumonia, aged 38.

William Racoosin, M.D. Long Island College Hospital, Brooklyn, 1904; a member of the American Medical Association; died at his home in Centerville Station, N. Y., January 1, from pneumonia, aged 40.

John Henry Finch, M.D. College of Physicians and Surgeons, Baltimore, 1886; a member of the Medical Association of the State of Alabama; died at his home in Birmingham, January 11, from paresis, aged 52.

Norman Powell Lake, M.D. University of Virginia, Charlottesville, 1908; a member of the American Medical Association; died at his home in Rectortown, Va., January 7, from typhoid fever, aged 34.

James Thomas Black, M.D. University of Tennessee, Nashville, 1901; of Elroy, Tex.; a member of the American Medical Association; died in Driftwood, Tex., Nov. 9, 1910, from abscess of the liver, aged 35.

George A. Binder, M.D. University of Minnesota, Minneapolis, 1892; a member of the American Medical Association; died at his home, Dayton's Bluff, St. Paul, January 15, from typhoid fever, aged 45.

Francis Marion Monroe, M.D. Medical College of the State of South Carolina, Charleston, 1861; a Confederate veteran; died at his home in Latta, S. C., Oct. 21, 1910, from senile debility, aged 72.

Robert McCready, M.D. Bellevue Hospital Medical College, 1869; for more than fifty years a practitioner of Sewickley, Pa.; died at his home in that place, January 17, aged 80.

Richard Mentor McGuffin, M.D. University of Pennsylvania, Philadelphia, 1872; died at his home in Bramwell, W. Va., Sept. 7, 1910, from cerebral hemorrhage, aged 63.

Frederick Lowell Crandell, M.D. Rush Medical College, 1882; formerly a police surgeon of Chicago; died at his home in Denver, January 5, from pneumonia, aged 56.

John P. Brown, M.D. University of Southern California, Los Angeles, 1902; died at his home in Rogers, Ark., January 12, from tuberculosis of the liver, aged 43.

William Haggerty, M.D. New York University, New York City, 1868; died at his home in Scranton, Pa., Dec. 29, 1910, from general nervous breakdown, aged 69.

Elihu H. Ayers, M.D. Rush Medical College, 1859; for many years a practitioner of Dallas, Tex.; died at the home of his daughter in that city, January 5, aged 77.

Columbus D. Smith, M.D. University of Pennsylvania, Philadelphia, 1851; formerly of Newnan, Ga.; died at the home of his son in Atlanta, January 12, aged 83.

Albert B. Barker, M.D. Eclectic Medical College of the City of New York, 1863; died at his home in Cincinnati, January 20, from cerebral hemorrhage, aged 73.

Charles E. Quail, M.D. University of Maryland, Baltimore, 1867; of Auburn, Pa.; died in Harrisburg, Pa., Dec. 21, 1910, from angina pectoris, aged 69.

William H. Richards, M.D. Miami Medical College, Cincinnati, 1872; of Hicksville, O.; died at the Angola (Ind.) Hospital, January 2, aged 72.

Frank Bostwick Lundy, M.D. Toronto School of Medicine, 1880; died suddenly at his home in Portage la Prairie, Man., Dec. 26, 1910, aged 53.

Franklin Bedford, M.D. Rush Medical College, 1873; a practitioner since 1865; died at his home in Maple Park, Ill., January 15, aged 81.

Matthew B. Drake, M.D. Cumberland University, Memphis Medical College, 1856; died at his home in Ladonia, Tex., January 9, aged 78.

Albin Vincent Wright (license, Navarro County, Tex., 1874); died at his home in Corsicana, July 1, 1910, aged 72.

A. J. Swindell (license, Texas, 1902); died at his home in Hermleigh, January 11, from pneumonia, aged 43.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

NATURE'S CREATION—A SEQUEL

Some Testimonials That Have Been Published and Some That Have Not

Nature's Creation, a "consumption cure" of the vicious type, was pretty thoroughly exposed in THE JOURNAL, March 5, 1910. As will be remembered, this nostrum was exploited originally as a "cure" for syphilis and was switched over into the "consumption cure" class after an awakened public interest in tuberculosis had made the sale of such "cures" increasingly profitable. It was then advertised "for tuberculosis only." As a syphilis "cure" it was recommended with stupendous effrontery as a substitute for the "potash" treatment against which the patient was warned. Examination of the stuff in the Association laboratory indicated that it was "essentially a *solution of potassium iodid* in a weakly alcoholic medium containing vegetable extractives and flavoring matter and small quantities of inorganic salts." And this potash solution was exploited as a means of avoiding the "potash treatment" and, furthermore, was sold as a product "made entirely from vegetable matter!"

THE "BLIND" ADVERTISEMENT

Nature's Creation has in the past been given publicity by means of large display advertisements in the newspapers. Recently the method of using a "blind" advertisement in the classified columns of the newspapers has been adopted. The following is appearing (Fig. 1) in the "Personal" column of papers all over the country:

> PERSONAL—TO CONSUMPTIVES: I POSSESS information which cost me a fortune, and feel that I should let every consumptive know about my experience. Mrs. J. M. Reynolds, Central National Bank, Columbus, Ohio.

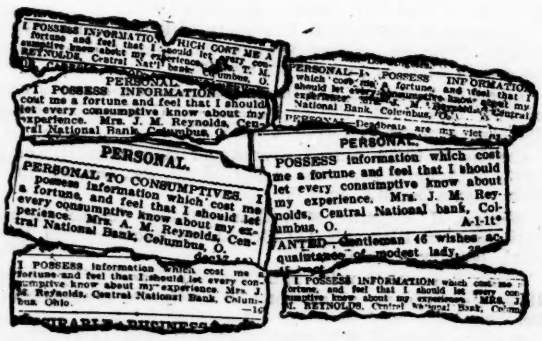

PERSONAL
PERSONAL TO CONSUMPTIVES. I possess information which cost me a fortune, and feel that I should let every consumptive know about my experience. Mrs. A. M. Reynolds, Central National Bank, Columbus, O.
PERSONAL
POSSESS information which cost me a fortune and feel that I should let every consumptive know about my experience. Mrs. J. M. Reynolds, Central National bank, Columbus, O.
WANTED—Gentleman 46 wishes acquaintance of modest lady,
I POSSESS INFORMATION which cost me a fortune and feel that I should let every consumptive know about my experience. Mrs. J. M. REYNOLDS, Central National Bank, Columbus, Ohio.

Fig. 1.—Photographic reproduction (reduced) of some of the numerous advertisements of Nature's Creation appearing as "blind ads," under the "Personal" columns in the classified advertising sections of newspapers all over the country. The advertisements here shown are taken from the Mobile (Ala.) *Register*, the Peoria (Ill.) *Star*, the Boston (Mass) *American*, the Los Angeles (Cal.) *Examiner*, the Montgomery (Ala.) *Advertiser*, the Binghamton (N. Y.) *Press* and the Chicago (Ill.) *Daily News*. Notice that the first letter of the initials prefixed to Mrs. Reynolds' name varies in different papers. This is done by the company as a means of checking up the number of inquiries obtained from a given advertisement.

The victims who answer this advertisement receive a letter written on pale blue stationery such as is used for social correspondence. The letter is signed—not always in the same handwriting—"Mrs. J. M. Reynolds" and the initials J. M. R. are embossed, monogram style, in gilt on the paper and also on the envelope. In this letter Mrs. Reynolds states she has cured herself, "in defiance of the world's scientists," by the discovery of "a combination of certain roots and herbs." Whether she cured herself of syphilis or consumption, she does not state, but she does say that in the joy of being well, "I am now devoting my life to saving others."

The recipient of this social epistle is further told by Mrs. Reynolds that as it is impossible for her "to attend personally to the multitude of inquiries" that reach her, "I am referring your request to my Secretary—Mr. Campbell—you will no doubt hear from him soon." By the next mail comes a letter from the Nature's Creation Company signed "H. W. Campbell, Sec'y." It was the H. W. Campbell Company, then of Chicago, that exploited this same fake as a syphilis cure a few years ago.

Mrs. Reynold's solicitude for the welfare of the sick may be understood when it is known that she is the president and a director of the Nature's Creation Company, capitalized at $200,000.00—a concern engaged in exploiting a discarded syphilis "cure" to consumptives at $5.00 a bottle.

HERBERT E. IMMEL.
Columbus, O., April 12, 1909.
To Whom It May Concern:
The public knows all about my having been saved by Nature's Creation. Since my recovery hundreds have come to me to get the details of my amazing recovery. Among them have been many consumptives themselves who have since taken the treatment and are today enjoying perfect health. What a blessing it would be if every one of knew that Nature's Creation really cures.
Very truly,
219 Deshler Avenue
DIED, DEC. 3, 1910.
CHAS. T. CLICK.
Westerville, O.
In July, 1908, I was given up by my family physician, and with good reason, too, as I was "all in," not being able to walk over 15 feet. I had gone all to pieces, just the same as I've seen many other consumptives. In a short time after starting on Nature's Creation, which was July 24th, I was able to be about as usual and have gained right along ever since. I have gained about forty pounds and am feeling better and better. I can't say too much for Nature's Creation, particularly as I know of many cases which are even more remarkable than mine.
Very truly,
Mr. Click's recovery is the talk of the town—most everyone knows him, and wherever he goes he is met with—"Hello, Charley! Who would ever have thought it possible—we all thought you were a 'goner' sure." He is now working every day at his trade of paperhanging.
(From Columbus Citizen, May 7, 1908.)
DIED, DEC. 23, 1909.
GEORGE SCHWENKE.
416 E. Forest Street, Columbus, O.
I know of many cases of tuberculosis where Nature's Creation has saved them after all hopes had been given up, but none were cured any more speedily than I. I was losing about ten pounds a month, and, while taking Nature's Creation for three months, gained thirty-four pounds. I have been cured for over three months and am back at work. I feel stronger and better than ever before. By the way, I had a great deal of trouble with my stomach before taking Nature's Creation, and now I can eat anything at any time and would never know I had a stomach. If anyone doubts that Nature's Creation cures, they would not if they could realize how bad I was when I was wasting away under the care of my physician.
Yours truly,
(From State Journal, June 9, 1908.)
DIED, FEB. 8, 1910.

Fig. 2.—Photographic reproduction (reduced) of three pages from the Nature's Creation testimonial booklet. In each case the person testifying to his "cure" of tuberculosis by Nature's Creation has died of that disease. In the case of George Schwenke, this record of his "cure" is being sent out, a year after his death!

CHARGES NOT DEFINITE ENOUGH

When the previous article appeared exposing Nature's Creation, the concern said that THE JOURNAL'S charges were vague and so carefully worded as to avoid legal reprisal. The public was told in sensational advertisements that the editor of THE JOURNAL did not dare to say that Nature's Creation "was a fake or fraud, or that it did not cure." Since, apparently, we did not make ourselves clear in the previous article we may summarize our findings more specifically at this time:

First.—Nature's Creation *is* a fake.

Second.—Nature's Creation *is* a fraud.

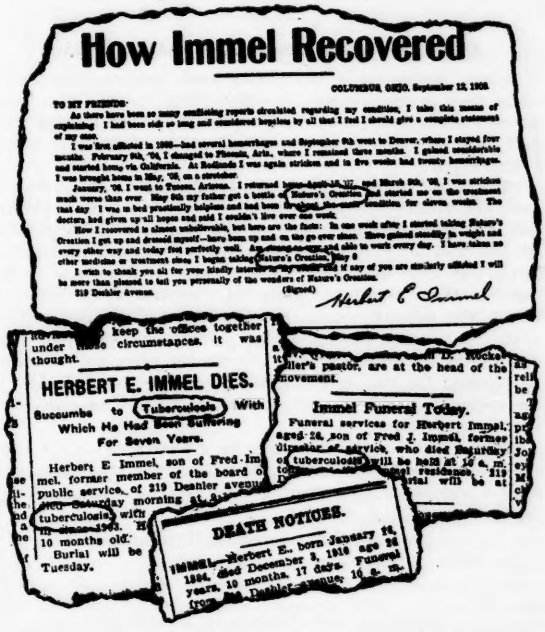
Third.—Nature's Creation will *not* cure consumption.

TESTIMONIALS

No "consumption cure" is complete without its testimonials. The worthlessness of such testimony, from a scientific stand-

point, has repeatedly been shown, and this, too, without assuming that the letters are fraudulent. That many of the letters published by fake medical concerns are documentarily genuine there is no doubt; that is to say, the letters were actually written. How valueless they are is made evident by looking into the cases of the individuals giving them. On investigating "consumption cure" testimonials, one of two things is practically always found: Either the writer of the testimonial did not have tuberculosis and recovered from his indisposition in spite of the nostrum, rather than because of it; or, the poor victim, in the first flush of optimism that comes whenever a new remedy is tried, deluded himself into believing that the stuff actually helped him.

We are reproducing (Fig. 2) three testimonials taken from the Nature's Creation advertising. In all three cases the poor victims who wrote them are dead. But the testimonials still live to delude other unfortunate sufferers from a disease which no drug can cure—in fact, Nature's Creation booklet in which the testimonial of George Schwenke appears, is still (January, 1911) being distributed—nearly a year after George Schwenke died!



How Immel Recovered

COLUMBUS, OHIO, September 12, 1908.

TO MY FRIENDS:

As there have been so many conflicting reports circulated regarding my condition, I take this means of explaining. I had been sick so long and considered hopeless by all that I feel I should give a complete statement of my case.

I was first afflicted in 1898—had several hemorrhages and September 9th went to Denver, where I stayed four months. February 9th, '04, I changed to Phoenix, Ariz., where I remained three months. I gained considerable and started home via California. At Redlands I was again stricken and in five weeks had twenty hemorrhages. I was brought home in May, '05, on a stretcher.

January, '06, I went to Tucson, Arizona. I returned home April 15, '07, and March 9th, '08, I was stricken much worse than ever. May 9th my father got a bottle of Nature's Creation and started me on the treatment that day. I was in bed practically helpless and had been in that condition for eleven weeks. The doctors had given up all hopes and said I couldn't live over one week.

How I recovered is almost unbelievable, but here are the facts: In one week after I started taking Nature's Creation I got up and dressed myself—have been up and on the go ever since. Have gained steadily in weight and every other way and today feel perfectly well. Am [illegible] and able to work every day. I have taken no other medicine or treatment since I began taking Nature's Creation, May 9.

I want to thank you all for your kindly interest [illegible] any wonder still if any of you are similarly afflicted I will be more than pleased to tell you personally of the wonders of Nature's Creation.

219 Dunbar Avenue. (Signed) Herbert E. Immel

keep the offices together under [illegible] circumstances. It was thought.

HERBERT E. IMMEL DIES.

Succumbs to Tuberculosis With Which He Had Been Suffering For Seven Years.

Herbert E. Immel, son of Fred Immel, former member of the board of public service, of 219 Dunbar avenue, died Saturday morning at 8 o'clock of tuberculosis, with which he has been afflicted since 1903. He was 10 months old. Burial will be Tuesday.

[illegible] pastor, are at the head of the movement.

Immel Funeral Today.

Funeral services for Herbert Immel, aged 24, son of Fred J. Immel, former director of service, who died Saturday of tuberculosis, will be held at 1:30 p. m. today at the family residence, 219 Dunbar avenue. Burial will be at [illegible]

DEATH NOTICES.

IMMEL—Herbert E., born January 12, 1884, died December 3, 1910 age 26 years, 10 months, 17 days. Funeral from the Dunbar avenue, 10 a. m.

Fig. 3.—These reduced photographic reproductions of a testimonial and three newspaper clippings tell their own sad story. The testimonial was published as an advertisement in the Columbus *Dispatch*, and later reproduced as an advertising circular by the Nature's Creation Company. The death and funeral notices also are taken from Columbus newspapers.

SOME TESTIMONIALS HITHERTO UNPUBLISHED

So much for testimonials that are favorable to the nostrum; now for the reverse of the shield. As has been said before, the Nature's Creation concern has its headquarters at Columbus, O. The local medical profession in that city is much alive to the viciousness of this fake and has taken active steps to combat it. For some time the Board of Health of the City of Columbus has been collecting data relative to the use of this nostrum. The matter that follows is from official sources, from the records of the district medical service, the district nurses' service and from the reports of the tuberculosis hospital. We submit a few testimonials that the Nature's Creation Company has, so far, not published and probably will not want to. And it should be remembered that the information here given deals, practically, with but one locality, that of Columbus, Ohio:

NO BENEFIT

March 23, 1910.

"I took Nature's Creation one year ago without benefit. Gave up taking it and came to the hospital, and am greatly improved since coming here. Have gained more than twenty-five pounds and feel much better than for two years.—*Emanuel Lewis.*

NOT WORTH NINE CENTS

March 23, 1910.

"I took Nature's Creation last summer because it was claimed a cure for tuberculosis. Took two bottles without benefit. Wish I could get my $9 back. They gave me two bottles for $9, but I do not consider that the two bottles were worth 9 cents.—*E. M. Deveraux.*"

UNABLE TO LEAVE BED AFTER TAKING

March 23, 1910.

"I took Nature's Creation in the spring of 1909 on advice of a friend. Took three bottles. I was far worse off when I quit than when I started taking it. I decreased in weight and felt worse generally. I was able to be up and about when I commenced taking it, but was unable to leave my bed after taking two bottles . . . Wish that I could recover $15 they took from me without benefit.—*Mrs. Herron.*"

UPSET HIS STOMACH—HASTENED HIS DEATH

"My son, Gussie Jones, was suffering with tuberculosis for about a year. Nature's Creation was recommended to him as a cure, and finally he began taking it. He took two bottles of the medicine, but before he had finished the first he suffered terribly with his stomach as a result of it . . . I firmly believe that it did him more harm than good, and hastened his death, and I am free to make this statement of the facts of the case.—*Mrs. H. C. Jones.*"

FIVE BOTTLES—NO BENEFIT

March 23, 1910.

"To Whom It May Concern: This is to certify that my sister, Mrs. J. E. Kibby, deceased, while living at 537 West Rich Street, and who was suffering from pulmonary tuberculosis, bought and used as per directions, five bottles of Nature's Creation. She did not gain in strength or appear to be benefited whatsoever by its use.—*J. Redman.*"

BELIEVED THE ADVERTISEMENTS—IS NOW DEAD

March 21, 1910.

"My daughter, Carrie, went South for her health about May, 1908, having been advised to go there by our family physician. To keep her from becoming lonesome I subscribed for the *Dispatch* (Columbus), in which she saw the advertisement for Nature's Creation, and would not be satisfied until she had tried it. She came home for the express purpose of taking this remedy, believing that the advertisements were true and that the remedy would cure her.

"She went to the Nature's Creation Company, was examined and told by them that the remedy would cure her and that she would have a 'speedy recovery.' . . . She took the medicine as advertised by the company, but no improvement was noticed. . . . She gradually grew worse and died on Oct. 14, 1909, and we believe that her death was hastened by the use of this medicine. . . .—*Charles H. McGuire.*"

The attention of those gentlemen of the daily press who feel that their responsibility extends no further than their editorial columns, is respectfully called to Mr. McGuire's letter. No fine-drawn sophistries can excuse such papers as carry advertisements of fake consumption cures, from the moral guilt involved. Without the aid of the press these vicious frauds would die, for without publicity they would cease to be profitable and it is for profit only that they exist.

THE TESTIMONY OF RELATIVES

One of the officers of the Board of Health, Columbus, sends in statements from various individuals whose relatives had taken Nature's Creation. Here are two of them:

"Mrs. Homer Eggleston, who formerly lived at 203 S. Belle Street, stated that her husband died of tuberculosis after taking four bottles of Nature's Creation. She stated that she did not think it did him any good whatever."

"Mr. J. N. Schilling, 438 Naghten Street, stated to me that his daughter took from ten to twelve bottles of Nature's Creation; that it was of no benefit whatever to her and really did her more harm than good; she died several months ago."

SOME ADDITIONAL REPORTS

The Columbus Society for the Prevention and Cure of Tuberculosis, through its visiting nurses, has had excellent opportunities for obtaining first-hand information about the use of this cruel fake. Some of the reports made by the nurses are here given:

John Woods: Took Nature's Creation and insisted that he was improving. This was not apparent to the visiting nurse. Died March 14, 1910.

Miss Ford: Took Nature's Creation when first taken ill. Died March 24, 1910.

Louis Goodwin: An incipient case, when he began taking Nature's Creation. Took from eight to ten bottles before death. Died Jan. 9, 1909.

Mrs. Mack: After taking two bottles of Nature's Creation, went up to the office of the company and demanded an examination. A man in the office said she was looking so well that they would pronounce her cured. Died May 23, 1910.

Joseph Kessler: Was a hopeful case. Lost valuable time taking Nature's Creation until it was too late for other treatment to be of any benefit. Failed steadily. Died June 2, 1909.

Ira May: Took Nature's Creation for a time, during which period he sat in a closed room huddled over a fire. Died March 3, 1910.

Joseph Steele: Took Nature's Creation until bedridden. Died Dec. 26, 1908.

Mrs. Geyer: Took several bottles of Nature's Creation, but as considerable stomach disturbance followed, discontinued. Died Dec. 4, 1909.

A GRUESOME LIST

The following classified list has been collected by the Columbus Board of Health. It consists of the names of those persons who have taken Nature's Creation—advertised to "check at once further progress of the disease"—but who, nevertheless, died:

SOME COLUMBUS, OHIO, PERSONS WHO HAVE TAKEN NATURE'S CREATION

NAME	DIED	NAME	DIED
William Malinhoff...	7-20-1908	Chas. W. Davis....	1-15-1910
R. J. Jones.....	8-25-1908	C. F. Higginbotham..	2- 4-1910
Myrtle M. Furrow..	9-23-1908	George Schwenke*..	2- 8-1910
William Snyder	9-27-1908	Ira May	3- 4-1910
Anna Philos 10-19-1908		Casper Herman	3- 5-1910
Edward Stock 10-26-1908		Howard A. Denune..	3- 6-1910
Anna Barbara 11-24-1908		Ned L. Evan.....	3-13-1910
Irene A. Freeman...12- 9-1908		John Woods	3-14-1910
Almeda E. Irwin...12- 8-1908		B. F. Segines.....	3-18-1910
J. Steele 12-26-1908		John J. Jenkins....	3-19-1910
George Wertz	1-15-1909	Mary I. Ford	3-24-1910
Carl Hasbrook	2- 2-1909	Forrest J. Greenlee..	3-31-1910
Joseph Kessler	6-12-1909	Sarah R. Ross.....	4- 5-1910
Chas. Wm. O'Day..	6-29-1909	Samuel Robinson ..	4-30-1910
Mrs. J. Kibby.....	7-31-1909	Mrs. Mack	5-23-1910
Florence Underwood.	9- 2-1909	John C. McAfee....	8- 9-1910
Theresa Harst.....	9- 3-1909	George H. Howell...	8-11-1910
Lucy Fultz	9- 3-1909	Daisy Sherman 11-10-1910	
Christina Shilling ..	9- 8-1909	Herbert W. Immel*.12- 3-1910	
Carrie McGuire 10-14-1909		Anna S. Smith.....12- 3-1910	
G. W. Johnson.....11-26-1909		Mrs. Geyer 12- 4-1910	
George Smith 11-28-1909		Maud Peters 12-20-1910	
Sheldon Harsh 12-21-1909			

* See Figure 2 for copies of testimonials by George Schwenke and Herbert Immel.

CONCLUSION

As has already been stated, the information just given deals with but one locality—Columbus, O. When it is realized that this iniquitous stuff is being advertised and sold from Maine to California the misery left in its wake may be imagined. While what precedes is but a part of the damning evidence which has been submitted against Nature's Creation we believe it is sufficient to convict this cruel fake at the bar of public opinion.

How much longer will the sale of this humbug be permitted? Its continued existence will depend on two things—the gullibility of the public and the willingness of the press to share in the company's blood-money by accepting advertisements of the nostrum. It is little less than criminal that men without even the pretence of medical training and with more capital than conscience should be free to exploit a valueless mixture of drugs as a cure for a disease which no drug can cure.

It is hoped that physicians will make it their duty to call the attention of the public to the facts here presented. Nature's Creation is but a type; if it goes out of existence there still remain scores of fakes just as vicious and just as cruel. And as they, too, die, others will spring up to take their places. So long as the credulity of ignorance is a human attribute, so long will the "consumption cure" and "cancer cure" fakes thrive. The only remedy is enlightenment and it is a fact, as notorious as it is pathetic, that a vast section of the public is densely ignorant of the limitations and possibilities of drugs.

Unfortunately, the medium through which the public could so easily be reached and enlightened—the newspapers—is, to a large degree, unavailable. Many of these publications are still too deeply under the blighting influence of the "patent medicine" advertisers ever to print the truth about these frauds. But the number of newspapers whose silence cannot be purchased increases yearly and their power is slowly but surely making itself felt. In the meantime it is the physician's duty to the public to give it the enlightenment which it needs for its own protection against "consumption cure" swindlers and other frauds equally vicious.

Correspondence

A Case of Blepharospasm: Information Wanted

To the Editor:—An interesting case came to my notice some time ago which, among other things, presented a most peculiar condition. I will not report it in full at this time as I hope to make a more thorough study of the case before a final report.

The patient has tonic blepharospasm, which has been present daily for about twenty-five years. The spasm is very painful and is accompanied by rolling of the eyeball into its position of rest; and the patient experiences a sensation of contraction in the region of the ciliary muscle. A peculiar feature of the case is that, since beginning to menstruate at the age of 14, the patient notices absolute relief from the painful symptoms during the menstrual period, whereas before the flow begins the spasm is more severe, and following the period the spasms for two or three days are much less severe. In the ordinary acceptance the patient could not be considered a nervous patient.

Perhaps some of my colleagues may have seen such a case, and from those to whose attention this brief statement may come I should be very glad to hear as I have so far found no similar condition recorded.

ROBERT SCOTT LAMB, M.D., Washington, D. C.
The Cecil.

Gonorrhea and Ophthalmia Neonatorum

To the Editor:—Dr. Sampliner's letter in THE JOURNAL last week directs attention to a subject of such great importance that it merits special emphasis. Almost every case of infantile blennorrhea sufficiently severe to cause blindness is of gonococcal origin and the result of an uncured gonorrhea in the father. There are not many men base enough to be wilful purveyors of an infection which carries in its train blindness, mutilation and death; so it must be that the mother of the child who develops ophthalmia neonatorum is infected because the father has not been forewarned by his physician of his possibilities as a disease-carrier. The truth should be made more clear to our students in the colleges that gonorrhea is not a simple affair to be treated with the nonchalance of a cold; that it is often exceedingly obdurate; and above all, that it is a source of danger as long as any infective germs are present. Nor is it as generally known as it should be that the absence of a discharge at the meatus following the treatment of an active gonorrhea is by no means proof positive that gonococci may not be found in the deeper parts of the urethra. A little beer taken in the evening, followed by gentle massage of the prostate in the morning, will in some cases bring to view a drop or two of a secretion which will be found to be loaded with gonococci and capable of developing an acute gonorrhea in the female. By proper treatment

this condition can be cured and the man be made safe. There is a temptation, even while a visible discharge remains which taxes the patience of both the patient and doctor, for the latter finally to say in desperation, "Oh, that's all right, you are practically cured," thereby giving a false sense of security which the conditions do not warrant. It should be made clear, beyond the possibility of misunderstanding to the patient that *so long as any discharge from the urethra can be secured it may be safely assumed in the absence of microscopic examination that infection is present and that marriage should be absolutely forbidden.* It is these unfinished cases that are responsible for the vast amount of misery caused by gonorrhea. It is hoped that the state departments of health may soon make this one phase of the valuable preventive work in which they are engaged and that other states may follow the lead of Indiana in giving our daughters legal protection from an avoidable infection which in so many cases is followed by frightful disasters.

F. PARK LEWIS, Buffalo, N. Y.

Phenolphthalein May Cause Pink Stools

To the Editor:—The following recent incident may be as pharmacologically interesting and instructive to others as it was to me:

I was called to see a child on account of an alleged bloody stool with severe abdominal pain and tenesmus. There had been no bowel movement for two days except a little pinkish liquid, which was negative to the guaiac blood-test. In making this test, however, it was observed that the color disappeared on the addition of acetic acid. Another sample of the stool, similarly acidified, promptly regained its color on being made ammoniacal. These unsual findings led to an investigation that resulted in procuring a cathartic tablet such as the patient had taken a few hours before. A solution of this tablet gave the same color reactions as the stool, making it very probable that all the signs and symptoms were due to phenolphthalein, especially as they disappeared after free castor-oil catharsis.

H. S. BARTHOLOMEW, Lansing, Mich.

[COMMENT.—The reaction of phenolphthalein with alkalies should always be borne in mind.—ED.]

Preservation of Rubber Bulbs

To the Editor:—The difficulty of keeping rubber bulbs in long service, complained of by Dr. Goodman (THE JOURNAL, Jan. 14, 1911, p. 113), has led me to devise a contrivance which does away with the rubber bulb altogether and is much cheaper as well as more satisfactory. The device consists of an ordinary bicycle pump connected with a piece of rubber tubing by means of a Schrader valve (used in a bicycle tire). To the end of the barrel of the pump is soldered on a flat band made of sheet tin, leaving a space through which a leather strap is passed and by means of which the pump may be secured to one's leg or other convenient support. In using the sphygmomanometer the pump is attached to the apparatus and operated in the same manner as the rubber bulb. It will be found, however, that the pump gives a much nicer graduation of the force, the air under pressure being prevented from escaping by the Schrader valve. The cost of the outfit is about 50 cents, and, with slight attention to oiling and the washers, will last a lifetime.

ALBERT ROBIN, M.D., Wilmington, Del.

The Fitting of Glasses by Unqualified Persons

To the Editor:—Your comment on "The Fitting of Glasses" in 10-cent stores was read with interest. That refractions of this kind cannot be in any way accurate and that the glasses of this kind do lots of harm cannot be doubted. But in my opinion the harm done by a "fake" device of any kind is measured by the reliance put in it by the user.

The 10-cent stores do not pretend to have any great amount of skill as refractionists and charge a low price for their glasses. Their patrons will, as a rule, soon find that the glasses purchased are not right and will discard them. But the optician, "eye specialist" with his handsomely decorated "office," his prevaricating advertisements and his fee of from $10 to $20 for his services and glasses does command confidence. Therein lies the danger. His hypermetropic "patients" will continue to wear the myopic glasses he has prescribed; the impression he has made will cause no doubts in their minds as to his fitness.

Let us get at the greater evil. The man whose sign blazes out "Pawn Broker and Eyesight Specialist" doesn't do nearly so much harm as his competitor whose advertisement reads, "Dr. ————, Optometrist. No matter what is the trouble with your eyes, call on me."

The first is passed by with a laugh, the second is sought out as a man of great skill.

J. W. KIMBERLIN, M.D., Kansas City, Mo.

Value in Case Histories of Term "Jew" as Racial Designation

To the Editor:—An unintentional error in classification of nationalities in medical articles, case reports, etc., is regarded as an injustice by a portion of the community, and your aid is sought to prevent repetition. The use of the designations "Jew," "Hebrew" and "Israelite" with their adjectives is here referred to, because when so employed these terms are meaningless. City Jews may possibly be distinctively more subject to diabetes and nervous affections than the average of our population but so large a proportion of the former now live the rural life that general deductions regarding these or any other diseases no longer hold good. Then, again, so large a percentage of Jews show admixture of other race stocks that mistakes are liable to occur from this source; authoritative statistics covering the world have just been published to prove this fact. See, also, Jean Finot's "Race Prejudice" and Antoine Leroy Beaulieu's "Israel Among the Nations."

It is because of the gross legal and political wrongs sometimes suffered by communicants of the Jewish faith that redress is here asked. When the present National Immigration Commission recently made the same error, so strong a united complaint arose from the national bodies of American Jews that correction promptly followed.

A. B. HIRSH, Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

USES OF CHROMIUM SULPHATE IN MEDICINE

To the Editor:—What place has chromium sulphate in medicine? The manufacturing chemists are advertising it extensively and I think that many physicians would like to obtain some idea of how much to believe of "The Uses of Chromium Sulphate in Medicine."

N. F. CHEEVER, M.D., Greenfield, N. H.

ANSWER.—The subject of chromium sulphate was discussed briefly in THE JOURNAL, Nov. 6, 1909, p. 1580. At that time we stated that the only article on the subject in medical literature appeared in the *Monthly Cyclopedia and Medical Bulletin*, September, 1908, by S. Kolipinski. An article by B. O. LeBlanc appeared in the *New Orleans Medical and Surgical Journal*, November, 1910, p. 346, in which the author reports that he used this drug in a case of ataxic paraplegia after other treatment had failed to produce improvement, and that after six weeks of treatment the patient was able to walk. The case is imperfectly reported, but does not appear to have been a case of myelitis, as sensation was unimpaired and the knee-jerk reflex was increased. The same symptoms would exclude locomotor ataxia. No statement is made as to whether the paralysis was flaccid or spastic. No electric test of the muscles is reported.

In addition to this article there are a number of reports to which little credence is to be attached on account of incompleteness of observation and report. One author reports a case of epilepsy in which he thinks there was benefit, but the report was made not more than two months after the last attack. The same author reports a case of nervousness in a patient who collapsed and was compelled to go to bed. "Could not sleep and was mildly hysterical. Chromium sulphate and rest straightened her out very nicely."

The remedy is being pushed in a semi-proprietary way, but the fact that so little reliable information is obtainable indicates that the drug is probably of little value, and that Kolipinski's observations require confirmation.

DIFFERENTIATION OF SPIROCHÆTA PALLIDA FROM NON-PATHOGENIC SPIROCHETES

To the Editor:—Please describe the method of differentiating the *Spirochæta pallida* from non-pathogenic spirochetes.

J. H. SCHRUP, M.D., Dubuque, Iowa.

ANSWER.—The differential diagnosis between *Spirochæta pallida* or *Treponema pallidum* and non-pathogenic spirochetes is based on the comparative motility and the width and number of curves which the different microorganisms present. The non-pathogenic spirochetes have a somewhat rapid motility, while the *Spirochæta pallida* seems to lie lazily in the material in which it is suspended (Gurd). The principal non-pathogenic spirochetes are *Spirochæta refringens, Spirochæta dentium* and *Spirochæta buccalis.*

Spirochæta refringens is larger, thicker, more refractile; its spirals are broader and wavier; its ends are blunter; it occurs in great numbers in a smear; and it stains more easily than *Spirochæta pallida.*

The morphology of *Spirochæta buccalis* is similar to that of *Spirochæta refringens,* and the organism is easily distinguished from the treponema with its short deep curve.

Spirochæta dentium is more liable to lead to error in diagnosis; its body is finer than the other forms mentioned and the curves are shorter and placed more closely together. The body of this organism is, however, always definitely thicker than the treponema and never does one find more than five turns to the diameter of a red blood-cell, nor are the extremities drawn out in the manner of the organism of syphilis. According to Coles, there are from six to seven turns of the treponema in the length of the diameter of a red blood-cell and the total length is equal to the diameter of one or two red cells and sometimes more. The total length contains from six to fourteen and sometimes twenty or more turns of the spiral. The *Spirochæta dentium* rarely has more than four or occasionally five turns; the other organisms from two to three, possibly five, but never more.

BOOKS ON PREVENTIVE MEDICINE, HYGIENE AND SANITATION

To the Editor:—Please refer me to a book on preventive medicine or sanitation and hygiene, or some up-to-date articles on the subject.

C. E. GILLIATT, Allendale, Ill.

ANSWER.—The following are among the best books on these subjects:

Abbott: Hygiene of Transmissible Diseases, Second Ed., W. B. Saunders Co., Philadelphia; price $2.50.

Baker: Municipal Engineering and Sanitation, Macmillan Co., New York; price $1.25.

Bergey: Handbook of Hygiene, John Wiley & Sons, New York; price $1.50.

Egbert: Hygiene and Sanitation, Lea Brothers & Co., Philadelphia; price $2.25.

Harrington: Practical Hygiene, Lea Brothers & Co., Philadelphia; price $4.25.

Notter: Theory and Practice of Hygiene, P. Blakiston's Son & Co., Philadelphia; price $7.00.

Parkes: Practical Hygiene, William Wood & Co., New York; price $4.00.

Richardson: Preventive Medicine, Lea Brothers & Co., Philadelphia; price $4.00.

Sedgwick: Principles of Sanitary Science and the Public Health, Macmillan Co., New York; price $3.00.

Stevenson and Murphy: Hygiene, P. Blakiston's Son & Co., Philadelphia; price, Vols. I and II $6.00 each and Vol. III $5.00.

Whitelegge and Newman: Hygiene and Public Health, W. T. Keener & Co., Chicago; price $1.75.

Wilson: Handbook of Hygiene and Sanitary Science, P. Blakiston's Son & Co., Philadelphia; price $3.00.

The *Quarterly Bulletin of the Ohio State Board of Health,* October-December, 1910, is a very practical pamphlet on the subject. We referred to it editorially on page 274. The offices of the board are at Columbus, Ohio.

BOOKS AND JOURNALS ON INSANITY

To the Editor:—Please inform me by whom Kraepelin's work on insanity is published; also give me a list of recent standard works on insanity and state by whom published, and advise me of the best journals devoted exclusively to this specialty.

FRANCIS H. POOLE, M.D., Pocatello, Idaho.

ANSWER.—The following are some of the principal works on insanity:

Kraepelin: Clinical Psychiatry, William Wood & Co., New York; $3.50 net.

Brower and Bannister: Insanity, W. B. Saunders Co., Philadelphia; $3 net.

Bruce: Clinical Psychiatry, Macmillan Co., New York; $4 net.

Church and Peterson: Nervous and Mental Diseases, Ed. 6, W. B. Saunders Co., Philadelphia; $5 net.

The following journals are suggested:

Journal of Nervous and Mental Diseases; subscription $5; monthly; published by S. E. Jelliffe, 41 North Queen Street, Lancaster, Pa.

Brain: Macmillan Co., St. Martius Street, W.C., London, England.

American Journal of Insanity; subscription $5; quarterly; Johns Hopkins Press, Baltimore.

Journal of Mental Pathology; subscription $2.50; monthly; State Press, 28 West 126th Street, New York.

Psychological Review; bimonthly; subscription $4.50; Johns Hopkins Press, Baltimore.

Journal of Comparative Neurology and Psychology; subscription $4; bimonthly; Wistar Institute of Anatomy, Philadelphia.

RECIPROCITY BETWEEN ARKANSAS AND LOUISIANA AND TEXAS

To the Editor:—Louisiana and Texas do not have reciprocal relations, but both of these states have reciprocal relations with Arkansas. Could not a physician holding a Louisiana license, who desires to practice in Texas, first obtain an Arkansas license through reciprocity with Louisiana and then in turn, through the reciprocal relations between Arkansas and Texas, obtain a Texas license?

W. P. H.

ANSWER.—Texas reciprocates with Arkansas and other states only on the basis of a written examination. In the instance cited it is improbable that Texas would accept the Arkansas license, since it would be based, not on the Arkansas examination, but on the Louisiana license.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 28, 1911.

Sherwood, John W., M.R.C., granted two months' leave of absence.

Casper, Joseph, lieutenant, ordered to remain on temporary duty at Fort Slocum, N. Y., to Feb. 15, 1911.

Pipes, Henry F., captain, granted four months' leave of absence, to take effect about June 1, 1911.

Howell, Park, captain, honorably discharged from the service of the United States.

Patterson, R. F., D.S., returned to Fort Sheridan, Ill., from detached duty and left Fort Thomas, Ky., Jan. 20, 1911.

Scott, Harold O., D.S., reports arrival at San Francisco and departure on one month and ten days' leave.

Mason, George L., D.S., returned to Fort Snelling, Minn., from temporary duty at Fort Assiniboine, Mont.

Mabee, James I., captain, relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Huachuca, Ariz., for duty.

Mills, Frederick H., M.R.C., leave of absence extended one month.

Koyle, Fred. T., M.R.C., on abandonment of Fort Mansfield, R. I., to proceed to Fort H. G. Wright, N. Y., for station and duty.

Wing, F.F., D.S., reported for temporary duty at Fort Omaha, Neb.; left Fort Crook, Neb., same date.

Worthington, Joseph A., M.R.C., on arrival in the United States from the Philippine Islands will proceed to the presidio of San Francisco for duty at that station.

Cutliffe, William O., M.R.C., sick leave of absence extended two months.

Arthur, William H., lieut.-col., relieved from duty at Walter Reed General Hospital, effective at expiration of leave of absence, and directed to proceed to San Francisco for transportation to Manila, P. I., on transport sailing Aug. 5, 1911, and on arrival report in person to the commanding general, Philippines division, for assignment to duty.

Eliot, Henry W., M.R.C., left Fort McKinley, Maine, on ten days' leave of absence.

Blanchard, R. M., captain, left temporary duty at Fort Thomas, Ky., on thirty days' leave of absence with permission to apply for thirty days' extension.

Leslie, Samuel H., D.S., granted twenty-one days' leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 28, 1911.

Heiner, R. G., P. A. surgeon, detached from the Naval Academy and ordered to duty at the naval hospital, Annapolis, Md.

Ransdell, R. C., P. A. surgeon, detached from the *Texas* and ordered to the *Baltimore.*

U. S. Public Health and Marine-Hospital Service

Moore, Dunlop, P. A. surgeon, granted seven days' leave of absence from Jan. 18, 1911, under paragraph 191, Service Regulations.

Schereschewsky, J. W., P. A. surgeon, directed to report at Bureau on special temporary duty.

Collins, G. L., P. A. surgeon, granted eight days' leave of absence from Jan. 24, 1911.

McKeon, F. H., P. A. surgeon, directed to report to P. A. Surgeon M. W. Glover for duty in the medical examination of arriving aliens.

Simpson, French, asst.-surgeon, granted one month and fifteen days' leave of absence from Feb. 6, 1911.

Slaughter, A. W., acting asst. surgeon, granted seven days' leave of absence from Jan. 8, 1911, under paragraph 210, Service Regulations.

Board of medical officers convened to meet at the Bureau on call of the chairman for the purpose of preparing a new "Nomenclature of Diseases." Detail for the board: Asst. Surgeon-General J. W. Trask, chairman; P. A. Surgeon Joseph Goldberger; P. A. Surgeon Joseph Schereschewsky, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

Legislatures are in session this winter in the following thirty-six states: Alabama, California, Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin and Wyoming. While many of the legislatures have been occupied so far in organization and the election of United States Senators, a number of bills of interest to physicians have been introduced relating to the practice of medicine, the regulation of public health matters, etc. As was to be expected, a number of bills providing for sectarian examining boards have been introduced. The following summary includes all of the bills that have been reported up to the time of going to press. In the case of bills of importance, further details, together with an abstract of the bill, will be given later.

ARKANSAS

Attorney-General Norwood is preparing a bill providing for a state board of health, carrying an annual appropriation of $10,000. The bill provides for a health commissioner, a bacteriologist, a bookkeeper and a stenographer. Members of the board of health are to be appointed by the governor and are to receive mileage and a per diem. The board is to have control over the health affairs of the state, outside of the cities which have their own health departments. An office in the state capital is provided for, with a laboratory for all work except water analysis, which will be done in the laboratories of the University of Arkansas as at present. The bill further provides for county and township boards of health. County commissioners are to receive one and one-half cents per capita on the population of the county. The bill also provides for registration of births, deaths, marriages and divorces. The *Pine Bluff* (Ark.) *Graphic* states that most of the legislators are in favor of the bill and that its passage is regarded as almost certain.

An optometry bill has also been introduced. This bill is similar to the optometry bills introduced into other states and is open to the same objections in that it permits those untrained in medicine to assume the care of patients suffering from diseases of the eye.

CALIFORNIA

No official reports have been received from California but the *San Francisco Examiner* states that a bill providing for a new state board of medical examiners is being prepared and will be introduced.

ILLINOIS

Senator Glackin, of Cook County, has introduced a bill (S. B. 5) providing for a state sanatorium for consumptives and appropriating $300,000 for this purpose.

A committee of the Chicago Woman's Club has prepared a bill to establish a commission for improving the condition of the adult blind in their homes. This bill provides for a state board of five persons, to be known as the Illinois Commission for the Blind, which shall act as a bureau of information and industrial aid, promote visits to the adult blind in their homes for the purpose of instruction, aid them to find employment, develop home industries for the blind, furnish them with material and tools, assist them in marketing their products, circulate books among the aged and helpless, or use any other methods it may deem expedient, except that it shall not undertake the permanent support or maintenance of any blind persons. The bill calls for the appropriation of $10,000.

The Chicago *Record-Herald* recently stated that the Chicago Homeopathic Medical Society had protested against a bill introduced, or to be introduced, to prohibit physicians from dispensing their own medicines.

INDIANA

The Indianapolis *Star* states that a bill to prohibit the sale of cocain in any form except on a physician's prescription, will shortly be introduced. The *Star* also states that the State Board of Health has formulated a legislative program which includes a weights and measures bill, a bill for medical inspection of school children, a cold storage bill, a sanitary school house bill, Pasteur Institute bill, a bill for the prevention of blindness in the new-born and amendments to the present pure food law. The bill for the medical inspection of school children, introduced by Senator McCarty, provides that medical inspection shall be optional with the school authorities but recommends inspection of the eyes and teeth and examination as to contagious diseases. This measure is endorsed by the State Board of Education.

IOWA

A bill has been introduced to create a health commission of three to take the place of the present Board of Health, this commission to be composed of a lawyer, a sanitary engineer and a physician. The three commissioners are to give their entire time to health administration. The usual bill establishing a state board of osteopathic examiners has been introduced.

LOUISIANA

A bill to prevent the unauthorized sale of habit-forming drugs has been introduced, strongly endorsed by the New Orleans *Picayune*. One of the strongest reasons urged for the passage of the bill is the prevalence of the cocain habit among negroes. District Attorney St. Clair Adams stated before the board of health that, according to police reports, there were from 20,000 to 25,000 negro cocain "fiends" in New Orleans and that morphin and cocain habitués were sent to the penitentiary or the insane asylum every week.

MAINE

A bill amending the medical practice act has been introduced, to establish a minimum preliminary educational requirement of a high school diploma or equivalent, giving the board power to revoke certificates, amending the definition of the practice of medicine, exempting all drugless methods of treatment and providing for the expenses of the board. An osteopathic bill has also been introduced.

MINNESOTA

The State Board of Health has approved a bill to be presented to the legislature, giving the board power to condemn school buildings as unsafe or unsanitary. The board has also approved a bill authorizing the state to pay one-third of the salary of a school health officer, who may give his whole time to the medical inspection of schools, and limiting the amount to be expended to $20,000 a year. The board also approved of a bill requiring licenses for all dogs, the income from the license tax to be used for the support of the Pasteur Institute.

MONTANA

The following bills have been introduced: a bill for a tuberculosis sanatorium; a bill for a pure food law; a bill to prohibit the sale of narcotics except on physicians' prescriptions; a bill providing for the medical examination of school children and two bills regulating dairy products.

NEBRASKA

A joint resolution has been introduced into the house, providing for the submission to the people of an amendment to the state constitution, creating a board of control of three members to have charge of all state institutions. The committee on medical legislation of the Nebraska State Medical Association has also recommended legislation providing suitable care for the indigent tuberculous and the tuberculous insane and for a commission of physicians to make reports to the courts on all matters connected with expert medical testimony. A bill has been introduced permitting the practice of so-called "Chiropractics," Christian Scientists and faith healers.

NEW HAMPSHIRE

A pure food bill, a bill appropriating $5,000 for a state sanatorium, a bill requiring practicing physicians to report all cases of tuberculosis, a bill prohibiting the manufacture and sale of cocain or any article containing cocain, and a bill amending the medical practice act have been introduced.

XUM

NORTH DAKOTA

A new medical practice act is being drafted which will place practitioners of all sects under the supervision of a single board.

OHIO

Bills have been introduced to amend the state pharmacy law, forbidding the sale of habit-forming drugs except on prescription of a legally qualified physician or dentist, regulating the itinerant vending of medicines, nostrums, etc.

RHODE ISLAND

The State Board of Health intends to introduce bills for the abolition of the public drinking cup and for the control of the pollution of streams. The Rhode Island Antituberculosis League has prepared a bill for the control of dairies and milk delivery.

SOUTH DAKOTA

Senator W. J. Maytum has introduced a bill to regulate itinerant physicians. A new board of health bill is being drafted to increase the power of the board and to provide an appropriation.

TENNESSEE

A bill has been introduced to amend the medical practice act by requiring a four years' course and prohibiting any person from practicing medicine under the name of any other person or firm. The term of members of the board of medical examiners is to be increased from four to six years. A vital statistics bill is being prepared along the lines of the model bill.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—First Weekly Meeting

General subject for the month: Surgical Infections *

THE NATURE OF INFECTION

DUE TO: (1) Toxic infections, snake venoms, etc., (2) bacteria.

INFECTION may be (1) local, wound infections, or (2) general, toxemia, septicemia, pyemia.

REACTION to infection may be (1) local, or (2) general.

LOCAL REACTION, INFLAMMATION: Action of bacteria due to bacteria, their toxins or endotoxins.

INFLAMMATION: (1) Disturbance of circulation with exudation; (a) congestion, (b) stasis, (c) leukocytosis, and emigration, (d) serous exudation, (e) diapedesis, (f) thrombosis. (2) Degenerative changes. Causes of necrosis and liquefaction. (3) Reparative changes: (a) cell-proliferation, (b) regeneration, (c) organization, (d) cicatrization.

SYMPTOMS OF INFLAMMATION.

TERMINATIONS.

GENERAL REACTION: Rapidity of absorption from different kinds of wounds. Virulence of bacteria. Resistance of organism. Development of bactericidal substances in tissue fluids. Complement and intermediary bodies. Agglutinins, lysins, precipitins. Leukocytosis, significance, relation of leukocyte to complement. Ehrlich's side-chain theory. Antitoxic serums, bactericidal serums. Fever. Causes of fever. Relation of fever to absorption of toxins. Aseptic fever.

INFECTED WOUNDS: Simple infected wounds. Progressive phlegmonous infiltration. Acute purulent edema. *Gangrène foudroyante.*

* Reference Books for the Seventh Month: Text-Books on Surgery, by Keen, Bryant and Buck, Lexer-Bevan, and others.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

Alabama July Report

Dr. W. H. Sanders, chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, July 11-14, 1910. The number of subjects examined in was 10; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 119, of whom 73 passed, including 2 osteopaths, and 46 failed. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
University of Alabama	(1908) (18, 1910)	19
Birmingham Medical College	(1909) (13, 1910)	14
Atlanta School of Medicine	(1906) (2, 1910)	3
Atlanta College of Physicians and Surgeons	(1909)	1
College of Physicians and Surgeons, Chicago	(1902)	1
University of Louisville	(1909) (4, 1910)	5
Tulane University of Louisiana	(1910)	2
Maryland Medical College	(1910)	1
Johns Hopkins University	(1910)	2
Columbia University, College of Phys. and Surg.	(1908)	1
Cornell University Medical College	(1907)	1
University and Bellevue Hospital Medical College	(1905)	1
Leonard Medical School	(1909) (1910)	2
Jefferson Medical College	(1910)	2
University of Pennsylvania	(1908)	1
University of Nashville	(1900) (2, 1908) (2, 1909)	5
Vanderbilt University	(1910)	2
Memphis Hospital Medical College	(1910)	2
Universities of Nashville and Tennessee	(1910)	3
University of Virginia	(1909)	1
University of Amsterdam, Netherlands	(1901)	1
University of Edinburgh, Scotland	(1901)	1
FAILED		
University of Alabama	(2, 1909) (6, 1910)	8
Birmingham Medical College	(1907) (7, 1910)	8
College of Physicians and Surgeons, Chicago	(1902)	1
Atlanta College of Physicians and Surgeons	(1910)	3
Atlanta School of Medicine	(1910)	2
Tulane University of Louisiana	(1910)	1
Barnes Medical College	(1910)	1
Leonard Medical School	(1906) (6, 1910)	7
University of the South	(1907) (1908)	2
University of Tennessee	(1908)	2
Meharry Medical College	(1910)	4
Universities of Nashville and Tennessee	(1910)	1
Memphis Hospital Medical College	(1910)	4
Chattanooga Medical College	(1908) (1909)	2

Kansas October Report

Dr. H. A. Dykes, secretary of the State Board of Medical Registration and Examination, reports the written examination held at Topeka, Oct. 13, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 13, of whom 5 passed, 6 failed and 2 withdrew. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Louisville	(1910)	79
St. Louis University	(1907) 93; (1908)	85
Kansas City Medical College	(1892)	80
University Medical College, Kansas City	(1910)	86
FAILED		
Eclectic Medical University, Kansas City	(1904)	56
Kansas City Medical College	(1900) 70; (1904)	62
Kansas City Hahnemann Medical College	(1909)	67
Missouri Medical College, St. Louis	(1883)	64
University Medical College, Kansas City	(1909)	62

Texas November Report

Dr. R. H. McLeod, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Palestine, Nov. 22-24, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 35, of whom 34 passed, including 1 osteopath, and 1 failed. The college and year of graduation for two

candidates who passed were not obtained. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Yale University	(1909)	90.9
College of Med. and Surg., Physiomedical, Chicago.	(1910)	80.2
Rush Medical College	(1897)	79
College of Phys. and Surg., Chicago	(1898) 84.3; (1910)	85.7
Hahnemann Medical College and Hospital, Chicago.	(1910)	91.2
Central College of Phys. and Surgs., Indianapolis.	(1898)	90.8
University of Louisville	(1910)	80.8, 85.2
Tulane University of Louisville	(1908) 77.4; (1910)	85.6
Barnes Medical College	(1904) 75,	77
St. Louis College of Physicians and Surgeons	(1910)	77.3, 87.5
Medico-Chirurgical College, Philadelphia	(1910)	83.1
Woman's Medical College of Pennsylvania	(1910)	85.1
University of Tennessee	(1891) 80.4; (1906)	81.7
Meharry Medical College	(1908)	75
Memphis Hospital Medical College	(1892) 76.9; (1901) 82.3; (1907) 84.3; (1910) 81.1.	
Vanderbilt University	(1909)	78.1
University of the South	(1901) 79.5; (1908)	76.8
Dallas Medical College	(1903)	77.4
Baylor University College of Medicine	(1910)	75
University of Texas	(1907)	88.9
Southwestern University Medical College, Dallas	(1910)	81.4
FAILED		
University of Louisville	(1910)	64.7

Maine November Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration in Medicine, reports the written examination held at Portland, Nov. 8-9, 1910. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 14, of whom 11 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine	(1910)	84
Baltimore Medical College	(1910)	92
Tufts College Medical School	(1910)	87, 88
College of Physicians and Surgeons, Boston	(1908)	77
Harvard Medical School	(1909) 82; (1910)	90
Hahnemann Medical Coll. and Hosp., Philadelphia.	(1910)	77
University of Pennsylvania	(1910)	86
University of Vermont	(1909)	89
University of Toronto, Ontario	(1895)	91
FAILED		
College of Phys. and Surg., Boston	(1908) 70; (1910)	77 *
Tufts College Medical School	(1909)	74

* Fell below the required percentage in certain branches.

Delaware December Report

Dr. H. W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover, Dec. 13-15, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, of whom 10 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University, Washington, D. C.	(1910)	89.3
College of Phys. and Surg., Baltimore	(1909) 83.8; (1910)	79.6
University of Maryland	(1909)	84.2
Woman's Medical College of Pennsylvania	(1909)	88.5
Jefferson Medical College	(1906)	86.8
University of Pennsylvania	(1906)	89.5
Medico-Chirurgical Coll., Philadelphia.	(1909) 75.9; (1910)	79.2
Victoria University of Manchester, England	(1894)	89.8
FAILED		
University of Maryland	(1910)	73.7
Royal University of Naples, Italy	(1905)	73.8

Kentucky December Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, Dec. 15-17, 1910. The number of subjects examined in was 10; percentage required to pass, 70, and not less than 60 in any one branch. The total number of candidates examined was 34, of whom 19 passed, including 1 osteopath, and 15 failed, including 2 osteopaths. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
College of Physicians and Surgeons, Chicago	(1884)	1
Chicago College of Medicine and Surgery	(1910)	1
University of Louisville	(1905) (4, 1910)	5
Louisville and Hospital Medical College	(1908)	1
Kentucky School of Medicine	(1908)	1
Southwestern Homeo. Medical Coll. and Hosp.	(1910)	1
University of Michigan, Homeopathic College	(1910)	1
University of Buffalo	(1900)	1
Eclectic Medical College, Cincinnati	(1910)	1
Cincinnati College of Medicine and Surgery	(1902)	1
Medical College of Ohio	(1909)	1
Hahnemann Med. Coll. and Hosp., Philadelphia.	(1908)	1
Meharry Medical College	(1910)	2
FAILED		
Kentucky School of Medicine	(1901) (1902)	2
University of Louisville	(1909) (5, 1910)	6
Kentucky University	(1910)	1
Louisville National Medical College	(1910)	1
Eclectic Medical College, Cincinnati	(1910)	1
Meharry Medical College	(1909) (1910)	2

Maryland December Report

Dr. J. McP. Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, Dec. 13-16, 1910. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 53, of whom 36 passed and 17 failed. Twelve candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University, Washington, D. C.	(1907) 77; (1910)	75
Atlanta School of Medicine	(1910)	95
University of Maryland	(1908) 77; (1909) 75; (1910) 77, 78, 78, 79, 80, 82, 83.	
Woman's Medical College of Baltimore	(1909)	83
Johns Hopkins University	(1901) 92; (1904) 90; (1907) 83, 93; (1908) 91; (1909) 89; (1910) 84.	
College of Phys. and Surg., Baltimore	(1903) 77; (1910)	80
Baltimore Medical College	(1910)	81
Maryland Medical College	(1910)	79
University of Michigan, Dept. of Med. and Surg.	(1898)	82
Columbia University, College of Phys. and Surg.	(1908)	85
University of Pennsylvania	(1909) 91; (1910) 78, 79, 82, 85.	
Jefferson Medical College	(1910)	85
Medico-Chirurgical College, Philadelphia	(1910)	84
University of the South	(1909)	76
University of Virginia	(1909) 81; (1910)	77
FAILED		
University of Georgia	(1909)	63
Louisville National Medical College	(1909)	54
University of Maryland	(1909) 55, 66; (1910)	69
Baltimore Medical College	(1910)	74
College of Physicians and Surgeons, Baltimore	(1910)	62
Maryland Medical College	(1904) 58; (1906) 66; (1909) 60, 67; (1910) 32, 51, 63; (——)* 66.	
Leonard School of Medicine	(1907)	71
University of the South	(1909)	42

College	Year Grad.	Reciprocity with
LICENSED THROUGH RECIPROCITY		
George Washington University	(1909)	W. Virginia
Columbian University, Washington, D. C.	(1891)	Virginia
Baltimore University	(1902)	Nebraska
University of Maryland	(1878)	Maryland
	(1907)	Virginia
Johns Hopkins University	(1905)	N. Carolina
Harvard Medical School	(1893)	Dist. Colum.
University of Pennsylvania	(1892)	Dist. Colum.
	(1898)	S. Carolina
Meharry Medical College	(1900)	Kentucky
Baylor University	(1907)	Texas
University of Virginia	(1901)	N. Carolina

* No year of graduation given.

Ohio December Report

Dr. George H. Matson, secretary of the State Medical Board of Ohio, reports the written examination held at Cincinnati, Dec. 6-8, 1910. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 23,, of whom 21 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University, Washington, D. C.	(1910)	81.9
Kentucky School of Medicine	(1903)	77.1
Johns Hopkins University	(1908)	82.6
Ohio-Miami Medical College	(1910) 75, 77, 81.6, 81.6.	
Western Reserve University	(1910)	76.3
Miami Medical College	(1880) 76.9; (1909)	78.3
Cleveland College of Phys. and Surg.	(1903) 77.7; (1910)	81
Medical College of Ohio	(1894)	77.8
Starling-Ohio Medical College	(1909)	78.6
Medico-Chirurgical College, Philadelphia	(1898)	82.5
Western University, London, Ontario	(1910)	80.5, 82
University of Helsingfors, Finland	(1903)	76.7
University of Berlin, Germany	(1908)	84.3
Royal University of Palermo, Italy	(1904)	76.5
Royal University of Pisa, Italy	(1909)	76.9
FAILED		
Eclectic Medical College, Cincinnati	(1908) 69.3; (1910)	55.5

Book Notices

THE MODERN TREATMENT OF ALCOHOLISM AND DRUG NARCOTISM. By C. A. McBride, M.D. Cloth. Price, $2. Pp. 376. New York: Rebman Co., 1910.

McBride believes that inebriety is a disease, and makes a good argument for the validity of his views. He admits that some who drink to excess do not have a craving; these he does not regard as inebriates; they are the ones who should be brought under moral influences to be reformed. The early chapter on the pathology of alcoholism is made up of quotations from Drs. Sims Woodhead, Hale White, Lauder Brunton and John R. Bradford and so may be considered authoritative.

McBride discusses, fully and well, the causes of inebriety and the conditions under which it arises. He says of Canada and such climates that the air is so stimulating that the desire for alcoholic drinks is not so great as in England, but that if they are used they are more acutely deleterious. The correctness of the first part of this statement is doubtful. The author has probably been misled by the customs of Canadians and Americans, who drink less wine in their homes than Europeans do—not, however, because of climate.

For purposes of prognosis and treatment the author classifies alcoholics as: (1) the constant drinker; (2) the periodical drinker; (3) the dipsomaniac; (4) the voluntary drinker; (5) mixed cases. The fourth class includes those who drink sometimes even to excess because others do, or as a "stunt," but who have no habit or craving for drink. They can stop whenever they are persuaded that it is best to do so. The term "dipsomaniac" he limits to those in whom there are outbreaks of mental excitement of a maniacal kind. He believes that "every dipsomaniac is insane, but the insanity is not sufficiently marked during the intervals to attract attention, and is apparent only when the patient is excited by alcohol." The other classes are readily understood from their names. Alcoholics of the fourth class do not need medicinal treatment. The others do. The dipsomaniac should be under restraint such as is needed by the insane. Alcoholics of the other classes are amenable to medicinal treatment. Various specific treatments which have been recommended are discussed. The treatment which the author uses is fully explained. In brief, it consists in giving hypodermic injections of strychnin 3 times daily, at first 1/60 of a grain, increased to 1/30 by the end of the first week and at the same time hypodermic injections of atropin are given, which are rapidly increased until the patient's tongue is made dry and the pupils dilated. A bitter mixture containing cinchona, gentian, rheum, capsicum and more atropin and strychnin is also given six times a day. During the first week, usually during the first few days, all taste for alcohol is lost. During the second week this treatment is continued, but during the third the injections of atropin are gradually diminished and finally stopped, and the capsicum is withdrawn from the mixture taken by the mouth. Thus modified, the treatment is continued during the fourth week. At the end of that time the atropin is withdrawn from the mixture and the latter is given four instead of six times daily. During the sixth week the injections of strychnin are reduced and stopped. At the beginning of the week the cinchona is also withdrawn. The author necessarily varies this treatment with the requirements of individuals. He does not minimize the value of the personality of the man administering treatment and of the value of suggestion, but he is convinced of the value and need of medicinal treatment.

Those who have had experience in the treatment of inebriates must feel skeptical about the value of this specific treatment, but no one reading the book will doubt that in the experienced hands of its author it will effect cures. His sincerity, clinical experience and success cannot be doubted.

The portion of the volume devoted to drug treatment is a small part of the whole. It is equally worthy of consideration.

PHYSICAL CHEMISTRY: ITS BEARING ON BIOLOGY AND MEDICINE. By James C. Philip, Ph.D., Assistant Professor in the Department of Chemistry, Imperial College of Science and Technology, London. Cloth. Price, $2.10 net. Pp. 312, with 23 illustrations. New York: Longmans, Green & Co., 1910.

The increasing utilization of physicochemical methods in solving biologic and physiologic problems gives promise of a successful future for this branch of science, and makes it necessary that a student of biologicochemical problems have a working knowledge of the fundamental principles and methods of physical chemistry. As the newer physiologic and biologic literature abounds in references to physical chemistry, it is difficult to comprehend the import of such work without at least a fundamental knowledge of the laws of physical chemistry.

In order to furnish the requisite knowledge to enable medical students and practitioners to follow modern research in the biologic fields, the author has produced this volume. It is well written, and, since it is made as simple as possible and all unnecessary mathematics have been dispensed with, the material should be in an easily assimilable form for those who have not specialized in the fields of higher mathematics and physics. Examples of phenomena are taken from the fields of biology, physiology and medicine to illustrate the principles of physical chemistry, and *vice versa*. It is a timely help for those who desire to keep up with the rapid development of the biologic sciences.

ANEMIA. By Obermedizinalrat Professor Dr. P. Ehrlich, Director of the Königl. Institut. für Experimentelle Therapie, Frankfurt a.-M., and Dr. A. Lazarus, Professor of the University of Berlin, Charlottenburg. Part I., Vol. I. Normal and Pathologic Histology of the Blood. Second Edition. Revised by Dr. A. Lazarus, and Dr. O. Naegeli, privat-docent, Zurich. Translated from the German by H. W. Armit, M.R.C.S. Cloth. Price, $4. Pp. 218, with illustrations. New York: Rebman Co., 1910.

It is more than ten years since the first edition of this part of "Anemia" was published by Ehrlich and Lazarus. During this time hematology has made many advances, mostly along lines indicated or in harmony with the views expressed in the first edition, while in some details, matters now present a samewhat different aspect from the one they presented ten years ago.

The new edition has been prepared by Prof. A. Lazarus, Ehrlich's original cooperator, and Privat-Docent O. Naegeli. The book still represents Ehrlich's school and Ehrlich's views. The translator has succeeded well in securing a readable English form. Chapters 1 and 2, by A. Lazarus, contain introductory matters, such as clinical methods of the examination of the blood and the morphology of blood. The third chapter, by O. Naegeli, considers the white blood-corpuscles—the histology and classification, origin, granules and theories, and presents also the subjects of leukocytosis and leukemia. Chapter 4, by A. Lazarus, deals with the blood-platelets. At the end of each chapter is a bibliography, the references in which are not given according to any uniform style or accepted form of abbreviation; thus, what is probably the *American Journal of Medical Sciences* is referred to as *Amer. Journ.*

There is no need for any recommendation of this book. Its value as representing the teachings of Ehrlich, the founder of modern hematology, is recognized at once. It may be pointed out, however, that Naegeli's discussion of the rôle of leukocytes in infection leaves much to be desired, the issues in some cases being confused. The colored plates are good.

THE DISEASES OF CHILDREN. By James F. Goodhart, M.D., Consulting Physician to the Evelina Hospital for Sick Children. Ninth Edition. Edited by George F. Still, M.D., Professor of Diseases of Children, King's College, London. Cloth. Price, $5. Pp. 931, with 34 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

With the exception of a few interpolations, this book might have been written a quarter of a century ago. In the chapters on nutrition and its disorders, there is not a single reference to metabolism.

To illustrate the antiquated character of the volume, a few instances from the chapters on infectious diseases are chosen. Tracheotomy is given preference over intubation, in the treatment of diphtheritic laryngeal stenosis; the author states also that intubation is "but seldom adapted to the exigencies of private practice." "We are inclined to doubt whether intubation will ultimately take rank as a generally serviceable measure in diphtheria." In the treatment of scarlet fever antiseptic inunctions (phenol or "oil eucalyptus supplied by Messrs. ——— & Son") are "insisted" on. "With this treatment the

child need not be isolated" and even "the infected child may be allowed to sleep with a healthy child."

If this book reflects the current thought in pediatrics in England, it certainly does not that of the Continent or of this country.

A GUIDE TO READING IN SOCIAL ETHICS AND ALLIED SUBJECTS. Lists of Books and Articles Selected and Described for the Use of General Readers. By Teachers in Harvard University. Boards. Price, $1.25. Pp. 265. Cambridge: Harvard University, 1910.

This book is compiled to meet the needs, not of "a superficial reader nor yet a learned scholar," but of "an intelligent and serious-minded student." Some subjects are included which are of special interest to physicians, such as "Medical Aspects of Sociology," "Defectives," "Crime and Criminals," and "The Liquor Problem." The sensible plan on which the work is compiled, being applicable to bibliographies of other subjects, is worthy of mention. The general subject has been subdivided, and each subdivision has been allotted to an editor of special ability in that field, who has compiled, not an exhaustive, but a select bibliography, with critical comments, "not attempting a complete description or a final judgment, but as though answering the preliminary question of a student, 'What kind of book is this?'" As Professor Peabody says in the preface, "A perfect [that is, exhaustive] bibliography may justify pride in the compiler but may provoke despair in the reader." We commend this thought to the consideration of other compilers of bibliographies.

PHASES OF EVOLUTION AND HEREDITY. By David B. Hart, M.D., Lecturer on Midwifery and Diseases of Women, School of the Royal Colleges, Edinburgh. Cloth. Price, $2. Pp. 259. New York: Rebman Co., 1910.

This little volume discusses evolution and heredity in a popular style. While there is no dearth of books on this theme, most of them are too ponderous and ultrascientific and, consequently, fill one's library shelves, but usually remain unread. Such criticism cannot apply here. The book is divided into fourteen short chapters and a glossary of scientific terms, each chapter forming a rounded whole. The diction is entertaining and reminds one very strikingly of the familiar popular-science style created by the great Huxley. Respecting the subject-matter itself, we detect no inaccuracies and are surprised by several things not expected in a work of this kind. It may well be questioned why the chapters on "The Community of Bees," "A Modern Observation Hive," "The Evolution of the Honey-Bee and of Modern Bee Culture"—all very interesting in themselves—have been introduced. However, as the author shows great first-hand familiarity with bee-life, one rather enjoys reading about it.

THE SCIENCE OF LIVING, OR THE ART OF KEEPING WELL. By William S. Sadler, M.D., Professor of Physiologic Therapeutics, the Post-Graduate Medical School of Chicago. Cloth. Price, $1.50 net. Pp. 420. Chicago: A. C. McClurg & Co., 1910.

This popular treatise on hygiene, intended for a purpose similar to that for which Cohen wrote his work recently reviewed in these columns, is far different in its style and content. Both books have their place; Cohen was concise, Sadler is discursive. This work is almost a popular physiology; the illustrations and tabulations are numerous and good. The layman will be led to read further by the interestingly argumentative way in which the sweet reasonableness of proper living is urged. Sadler is most thoroughly in earnest; he comes very near to exaggeration at some points; for example, "sunlight . . . . is immediately fatal to the tubercle bacillus." But his abundant enthusiasm will be a tonic for the reader, and so we hesitate to criticize. The book is well worthy of being recommended for popular use.

FRACTURES AND THEIR TREATMENT. By J. Hogarth Pringle, F.R.C.S. (Eng.), Glasgow. Cloth. Price, $5.50. Pp. 384, with 142 illustrations. New York: Oxford University Press, 1910.

This volume, profusely illustrated with photographs and skiagrams of the various pathologic conditions of fractures, together with their diagnoses and treatments, contains an account of the mechanism by which the different fractures are produced and of the methods of treatment possible to the average practitioner without hospital facilities, trained assistants and nurses. It also contains a bibliography which includes names of some of the classical works dealing with fractures, many of which give extensive lists of the writings on the particular phase under consideration. This book will appeal not only to the surgeon but also to the general practitioner and student, for through its logical arrangement concise and comprehensive information is readily found, giving the diagnostic points and treatment of each individual pathologic condition.

URGENT SURGERY. By Felix Lejars, Professeur Agrégé à la Faculté de Médecine de Paris. Translated from the Sixth French Edition by William S. Dickie, F.R.C.S., Surgeon North Riding Infirmary, Middlesbrough. Vol. II. The Genito-Urinary Organs—the Rectum and Anus—the Strangulated Hernias—the Extremities. Cloth. Price, $7 net. Pp. 580, with 536 illustrations. New York: William Wood & Co., 1910.

The second volume of the English translation of this work includes sections on the urgent surgery of the genito-urinary organs, the rectum and anus, a separate section on strangulated hernias of the different varieties, and a final section on the extremities. This latter includes in addition to fractures, dislocations, amputations, crushing and other injuries, paragraphs on the suture of blood-vessels, nerves and tendons, beside many other subjects. While all surgery, perhaps, may be said to be urgent surgery once a case is diagnosed as a surgical one, yet the author has limited his subjects to those coming within the limits of urgent surgery in the strict sense.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. By E. B. Gleason, M.D., Clinical Professor of Otology in the Medico-Chirurgical College. Second Edition. Leather. Price, $2.50 net. Pp. 563, with 228 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The revision of this manual brings the information concerning these special topics down to date and affords the physician a reliable and practical working guide in the treatment of diseases of the nose, throat and ear. The section containing formulas of remedial agents, washes, sprays, gargles, ointments, etc., has been enlarged and includes a brief statement of the action of the various agents and their therapeutic application. While much space is given to the various operations recommended in the highly important middle-ear, mastoid and accessory sinus affections, the author does not neglect medicinal and other measures to be employed in the acute stages. The book is well illustrated and of a convenient size.

ATLAS UND GRUNDRISS DER VERBANDLEHRE FÜR STUDIERENDE UND AERTZE. Von Dr. Albert Hoffa, a. o. Professor an der Universität, Berlin. Nach des Verfassers Tod bearbeitet von Privatdozent Dr. Rudolf Grashey, München, Lehmann's Medizinische Handatlanten. Band XIII. Fourth Edition. Cloth. Price, 10 marks. Pp. 152, with 170 illustrations. München: J. F. Lehmanns Verlag, 1910.

The fourth edition of Hoffa's work has been revised and brought up to date by Dr. R. Grashey, instructor in the University of Munich. The first part of the work gives detailed instruction with reference to bandage materials and methods of application, and is followed by a collection of seventy-eight plates, illustrating the various methods employed for ordinary bandaging. The second part deals with special methods of bandaging, treatment of wounds, fractures, etc., and is illustrated by a collection of ninety-two plates. There are a number of illustrations incorporated in the text.

DIE HAUPTGRUNDGESETZE DER EPIDEMIOLOGISCHEN TYPHUS UND CHOLERAFORSCHUNG. Dargelegt on Dr. med. Friederich Wolter in Hamburg. Band. Paper. Price, 24 marks. Pp. 337, with illustrations. Munich: J. F. Lehmann, 1910.

This book is a laborious defense of an outworn creed, namely, the doctrine of a local predisposition to typhoid fever and cholera. Modern bacteriologic and epidemiologic studies have made such statistical compilations as the one before us seem antiquated and almost purposeless. There is little to be gained by such a one-sided treatment.

CARE OF THE PATIENT. A Book for Nurses. By Alfred T. Hawes, M.D. Cloth. Price, $1 net. Pp. 173, with 6 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This book tells in a simple and concise way how to do practically everything that comes within the ordinary routine duties of the nurse in hospital and in private practice in caring for patients from the moment they come under her care until discharged. It is an excellent book for the beginner and will teach system and correct methods to those more advanced.

HOW TO COOK FOR THE SICK AND CONVALESCENT. Arranged for the Physician, Trained Nurse and Home Use. By Helena V. Sachse. Fourth Edition. Cloth. Price, $1.25 net. Pp 337. Philadelphia: J. B. Lippincott, 1910.

The present edition of this book has been enlarged by the addition of a chapter on the substitutes for cane sugar. The book should be useful not only to those who must prepare food for the sick and convalescent but also for housekeepers; the recipes are practical and the directions clearly stated.

Medicolegal

Law Requiring Exclusion of Unvaccinated Pupils from Schools Constitutional and Must be Enforced

The Court of Appeals, First District, California, in State Board of Health vs. Board of Trustees of Watsonville School, District of Santa Cruz County (110 Pac. R. 137) holds that it was error to sustain a demurrer to the plaintiff's petition for a writ of mandate to compel the defendant trustees to comply with the act of 1889, entitled "An act to encourage and provide for general vaccination in the state of California." That statute provides: "The trustees of the several common school districts in this state and boards of common school government in the several cities and towns are directed to exclude from the benefits of the common schools therein any child or any person who has not been vaccinated, until such time when such child or person shall be successfully vaccinated," etc.

The court says that it has no doubt as to the constitutionality of the act. The legislature must necessarily be the judge as to legislation under the police power for the public health and for the purpose of preventing the spread of contagious diseases, the means used to prevent such spread, and the diseases regarded as contagious. It is invested with a large discretion within the scope of its powers, which discretion cannot be controlled by the courts except in cases where such discretion has been plainly abused.

Nor does the court consider this statute repealed by the subsequent compulsory education act. The latter is not inconsistent with the former. The parents of children are compelled to send them to school under the latter act, but they must comply with the law as to having them vaccinated in case they desire to avail themselves of the privilege of sending them to the common schools.

The vaccination statute is not directory, but mandatory. It is the plain duty of the trustees, and they are directed by the express terms of the statute, to exclude from the public schools any child or person who has not been vaccinated. Until the child has been vaccinated he must be excluded from the schools. If the trustees could use their discretion, and of their own will at times exclude and at other times admit to the schools children who have not been vaccinated, or if the trustees could exclude some children and admit others, the law would be uncertain and of little value. It was never the intention under the terms of the act that the board of trustees should possess such discretion. By its terms all are to be excluded, and the exclusion is to continue as to all until they have complied with the law.

The duty devolves on the defendants by virtue of their office to exclude such children. They must obey and not question the law. They are not compelled to hold their respective offices as trustees; but while in office it is their duty, and the duty of each and every one of them, to see that the law is enforced, and this whether the law is popular or unpopular, or whether they believe in the vaccination of children or otherwise. The law having been passed by the people, it is the duty of the trustees and of all persons to obey it until it is repealed.

Cities May Require Annual Tuberculin Test and Authorize Summary Seizure and Destruction by Health Departments of Milk from Uninspected Cows

The Supreme Court of Minnesota, in Nelson vs. City of Minneapolis (127 N. W. R., 445), holds valid, as a police regulation, a city ordinance prohibiting the bringing into the city for sale, or offering for sale therein, of milk from cows not previously subjected to the tuberculin test and found free from disease, the test to be applied annually, and the health department being authorized to summarily seize and destroy milk from untested cows.

The court says that in this case the city council, duly authorized thereto by legislative grant, which was that it might prescribe the terms and conditions on which milk, cream and butter might be exposed for sale in the city, determined that the tuberculin test of cows was the most feasible and practicable method of insuring a pure milk supply. This involved a matter of legislative judgment and discretion, and necessarily a comparison with other methods designed to secure the same result, including the theory of pasteurization. It is probable that pasteurization, when placed on a practicable and workable basis, will be found superior to the annual tuberculin test; but the determination of that must be left to the legislative department.

It was urged that before destroying the milk the authorities should be required to ascertain whether it was in fact unwholesome and unfit for food, and that to permit them to destroy the same without regard to whether it was or was not free from disease germs authorized a taking of property for public use without compensation, and was not that due process of law guaranteed by the constitution. But the city council determined that the tuberculin test was a reasonable, and the most practicable, method of insuring purity in the milk brought into the city. To enforce the regulation the council had the power to impose such penalties as would render the regulation effective and serve the purpose intended. It provided, in addition to fine and imprisonment, a destruction of the condemned milk. The authorities sustain regulations of this character. It is in fact the only feasible method of preventing contaminated or unwholesome milk from reaching the citizens, and to enforce or compel a compliance with the ordinance. A mere fine or imprisonment of the offender would not prevent the milk reaching the consumers; but its destruction, when brought into the city, is effective for all purposes. This authority must be sustained, unless it is to be held as a matter of law that the city should either determine that the milk is in fact impure, or in the interests of the dairymen, establish and maintain a pasteurization plant, in which all milk brought into the city may be purified and rendered wholesome. But the dairymen and dealers in milk and cream, who persist in their refusal to comply with the inspection ordinance, which answers every purpose of the regulation, and entitles them to unrestricted entrance into the city with their milk, are in no position to urge the establishment of such a plant.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CLEVELAND ACADEMY OF MEDICINE

Meeting held Jan. 6, 1911

The President, DR. CHARLES B. PARKER, in the Chair

Treatment of Heart Disease

DR. L. F. BARKER, Baltimore: The causes of heart failure are many, but, in general, the treatment resolves itself into heart protection and heart stimulation or exertion. In most cases we must resort to the former first. We have four general methods of protecting the overworked, weakened heart. The patient must be put to bed and have absolute rest. The more quickly the symptoms disappear after beginning rest, the better the prognosis. If more restful, the Dutch bed, which elevates the thighs and flexes the knees, may be used. If the patient is very dyspneic, unable to sleep, a hypodermic of morphin sulphate, every night, for three or four nights, may be of great value and cause the turning point in a broken compensation.

As to diet, food should be given in five small meals rather than in three large ones. It is not necessary to say that all food should be easily digestible. Liquids must be restricted, and it is often well to limit total liquids to 1.5 liters in twenty-four hours. In selected cases the Carroll method of giving twenty-eight ounces of milk only in twenty-four hours, for three days, may be tried. I have often seen severe cases improve, and greatly increased kidney activity result, even in spite of restricted liquid intake. If the patient is constipated,

salines should be used in the morning. When the sufferer is cyanotic and very dyspneic, the right heart dilated, jugulars jumping, I have often found venesection to be of great value—removing from 200 to 300 c.c. of blood. Often the patient will get a good night's rest following this procedure. If there is a marked ascites or hydrothorax, the patient should be tapped. Of diuretics, there are several to select from: Theocin, grains 3 to 5, four times a day, for three or four days; theobromin-sodium salicylate grains 15, four times a day, may be tried. Many rely on the old-fashioned pill, containing mercury, squills and digitalis. Others frequently find calomel of value.

When the heart has had a start of several days protection, we can bring the principle of heart stimulation or exertion into play. Of the drugs increasing heart efficiency, digitalis stands first. Strophanthin is also an excellent remedy. Strophanthus itself is not to be recommended for use by the mouth as it is very irregular and frequently dangerous in its action. Other means of heart exertion to be employed are the carbon-dioxid baths as employed at Nauheim, and the principles of mechanotherapy. However, they are rather uncertain and only to be employed by one experienced in their use.

These are only the general principles of the treatment of heart disease and each case must be studied and individualized by itself. For example, in a case of heart-block we would be very careful in the use of digitalis, and in a case of fatty heart we would be quite likely to employ the principles of heart exertion first; rather than those of heart protection.

DR. C. F. HOOVER: In the last few years the study of heart action is viewed altogether different. In a given case it is often not so much a question of the hydraulics of the heart, e. g., there may be a marked deficiency in the mass movement of blood with a normal systolic and diastolic blood-pressure.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Dec. 28, 1910

The President, DR. HENRY LEFFMANN, in the Chair

Symptoms and Complications of Lobar Pneumonia

DR. JAMES M. ANDERS: While the mode of onset is characteristic in about 80 per cent. of the cases, about 20 per cent. begin insidiously. The latter often pursue a protracted course with slow defervescence, and are apt to show complications and sequelæ. Defervescence by lysis is more commonly observed at present than formerly, but they are unattended by a decided fall in the leukocyte count, while the reverse is true of the actual crisis. A high pulse-rate implies danger in pneumonia. Leukocytosis may be slight or absent in cases in which the struggle for life is lost. I have never observed leukopenia, but this may occur; and leukocytosis is also absent in cases in which the scene is dominated by a prior infection, such as typhoid fever and certain other conditions. It is important that an examination of the lungs be made in cases of mania a potu in which fever is present, since all other characteristic features may be in abeyance. The adhesive, rusty-colored sputum is a characteristic feature, but it is sometimes absent in the pneumonias occurring in the aged, in drunkards and in those showing marked toxemia. The physical signs yield evidence of great diagnostic importance. The value of systematic physical examination of the thorax, with a view to detecting consolidation when present in suspicious cases, is of the highest importance in subjects of emphysema and in the aged, in the acute infections, as well as in the commoner chronic diseases when fever develops. Certain signs may rarely arise in the opposite or uninvolved lung, such as impaired percussion-resonance, râles over the base, and to the fact that these are readily confused with actual consolidation. If practicable, blood-cultures should be undertaken in dubious cases. Pleurisy with more or less effusion complicates pneumonia in about 50 per cent of the cases. In at least 20 per cent. heart complications are present. Pleural effusion of moderate degree is extremely apt to be overlooked during life. Needling is essential in doubtful cases and also to distinguish between serum and pus. The special bacterial agent should always be isolated.

Among the commoner complications of pneumonia is empyema. In encapsulated empyema following pneumonia, a positive diagnosis is sometimes extremely difficult. Other means failing to prove the presence of pus, an exploratory operation should be done. In consequence of the toxemia or pneumonic septicemia, cardiac exhaustion may ensue without any marked histologic changes in either of the valves or the myocardium. Acute endocarditis is present in about 10 per cent. of the cases of pneumonia. It differs from other varieties: (1) in that three-fourths of the cases are ulcerative; (2) in that women show a higher incidence than men in the proportion of 2 to 1; (3) in that the aortic cusps are more commonly involved than the mitral. Pneumococcus endocarditis generally prevents the occurrence of the crisis. Pericarditis is a more frequent complication than endocarditis. Meningitis may be associated with endocarditis or occur independently as a complication, but this is comparatively rare. It can be diagnosed only by the presence of such features as bradycardia, paralyses and neuro-retinitis, or in the absence of definite symptoms, by lumbar puncture. Acute nephritis probably occurs in about 7 per cent. of pneumonic infections. Chronic nephritis is frequently found at autopsies in cases of pneumonia (70 per cent. of the cases at the Philadelphia Hospital), so that it may be regarded as one of the commonest foregoing diseases.

Diagnosis of Pneumonia

DR. AUGUSTUS A. ESHNER: In the majority of cases the diagnosis of pneumonia is easy. With a history of exposure to cold, followed by chill, fever, pain in the chest, dyspnea, rapid, shallow breathing, irritative cough, viscid mucoid hemorrhagic sputum, labial herpes, pneumonia will suggest itself, and the diagnosis will be confirmed by physical examination. Difficulty in the recognition of pneumonia will arise principally in atypical cases. Error is to be avoided by constant vigilance, with frequent physical exploration. Among the disorders from which pneumonia requires to be differentiated are acute pleurisy, pulmonary tuberculosis, bronchopneumonia, congestion of the lungs, infarction, abscess, gangrene, bronchiectasis, actinomycosis, syphilis, malignant disease, pericardial effusion, meningitis, typhoid fever.

Surgical Complications of Pneumonia

DR. CHARLES F. NASSAU: Pneumonia is not wholly a medical disease, as is generally believed. With enormous effusion, removal by operation is the only proper course. Careful attention should be given to the cardiac condition. In a true empyema the treatment is clear: incision, with or without resection of the rib, and drainage. Abscess or gangrene of the lung is one of the most difficult propositions confronting the medical man and surgeon. The treatment of either consists in rib resection and the insertion of a drainage tube. There is a sentiment against tapping suppurative collections in the pericardium, and I believe it is very much safer to make a small rib resection, expose the pericardium, when a needle can be introduced with comparative safety. In sixteen years I have seen very few cases of arthritis complicating pneumonia. It affects chiefly the knee and occurs most frequently in children. Absolute diagnosis rests solely on bacteriologic examination of the joint fluid. When the pain in pneumonia is referred to the abdomen, the pain and tenderness may be as pronounced as in acute abdominal disease. Diagnosis is so difficult that laparotomy may be done.

The Medical Treatment of Pneumonia

DR. ARTHUR NEWLIN: Pneumonia patients should be isolated when possible. Two chief ends to be sought are the preservation of the patient's strength and the maintenance of his personal comfort. Local measures such as cupping or strapping are used for the control of pain. The use of baths is not advised in adults, but hot baths in children are frequently of value. Dyspnea and cyanosis are better controlled by cold air than by any other means. Milk remains the staple diet of pneumonia patients. The intestinal tract should be cleansed by calomel and salines. Such expectorants as creosote and ammonium chlorid are rarely necessary; respiratory stimulants such as strychnin, atropin and aromatic

spirits of ammonia are useful. They should be administered as occasion indicates. Phlebotomy has its use when the consolidated lung offers a mechanical obstruction to the pulmonary circulation. For the cardiac weakness which results from fatigue and toxemia, such stimulants as strychnin, digitalis, aromatic spirits of ammonia, caffein, atropin and camphor may be used. Of these strychnin and camphor are probably the best. Alcohol and digitalis are sometimes of use. Although there are objections to alcohol, yet in the aged and to those addicted to the use of the drug it may be used with benefit. Digitalis, preferably the fat-free standardized tincture, is given hypodermically. For lowered blood-pressure, rapid pulse and tympanites, epinephrin, 1 c.c. of a 1 to 1,000 solution, hypodermically, may be employed.

Strophanthin is a powerful cardiac stimulant and is given intravenously in milligram doses, but should not be repeated within twenty-four hours. Vaccine and serum-therapy has as yet not proved to be efficacious in the treatment of pneumonia. The treatment should be one of conservatism, relying on fresh air, various local measures and the ability to give the right drug at the right moment with the avoidance of routine administration.

DISCUSSION

DR. HENRY D. JUMP: Blood-pressure estimation in the prognosis and treatment of pneumonia is of far more value than the estimation of the respiratory rate. As has been pointed out, there is at a certain time in the toxic condition of pneumonia, a lowered blood-pressure accompanied by an accelerated pulse, which indicates a grave prognosis. This has seemed to me to offer a very distinct indication for therapeutic measures, and I am surprised that the observation has not attracted more attention in the treatment of pneumonia. Associated with this lowered tension and accelerated pulse we have, as a rule, a tympanites due to vasomotor paresis of vessels of the splanchnic. If this vasomotor paresis goes on to the greatest extent, the body becomes bled into its own vessels and active interference is called for.

DR. J. NORMAN HENRY: I have had satisfactory results with quinin, administered hypodermically, and the administration of salt solution by hypodermoclysis. In sixty-five cases of croupous pneumonia I have had ten deaths and some of these patients were moribund at the time the treatment was begun.

DR. HOBART A. HARE: In the vast majority of instances pneumonia is not a primary frank disease. To ascertain the value of any line of treatment in pneumonia we would have to have statistics covering hundreds of cases and divide them up into innumerable groups. The matter of the lowered arterial pressure and accelerated pulse-rate is one of the greatest importance in that it tells you far ahead of time that danger is impending.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 21

1 Metastasis to the Nervous System from Cancer of the Stomach and Intestine. H. L. Elsner, Syracuse, N. Y.
2 *The Organic Basis of Neurasthenia. J. M. Swan and C. C. Sutter, Watkins, N. Y.
3 *Do Medical Schools Adequately Train Students for the Prevention of Infant Mortality? I. S. Wile, New York.
4 Significance of the Bacillus-Carrier in the Spread of Asiatic Cholera. A. J. McLaughlin, Washington, D. C.
5 *Asthma and Anaphylaxis. J. H. Barach, Pittsburg, Pa.
6 Clinical Methods of Diagnosis of the Functional Activity of the Heart. J. Schneyer, Philadelphia.
7 *The Use of Albumin Milk. I. A. Abt, Chicago.
8 Phases of Asthenopia. D. W. Hunter, New York.
9 Case of Amebiasis with Abscess of the Liver in Green Island. J. B. Harvie and H. W. Carey, Troy, N. Y.

2. **Neurasthenia.**—The authors review the histories of fifty-one patients who were suffering from neurasthenia. In thirty-seven, the condition was dependent on organic disease (72.5 per cent.); in fourteen, it was apparently independent of organic disease (27.45 per cent.). Summarizing the cases the following is noted: Nineteen cases were due to cardiovascular disease; four to myocarditis with low blood-pressure; one to myocarditis with arteriosclerosis; ten to arteriosclerosis with high blood-pressure; four to beginning interstitial nephritis. Three cases were due to pulmonary disease; nine to gastrointestinal disease; three to cholecystitis, one to appendicitis, four to marked constipation, one to pyorrhea alveolaris. Four cases were postoperative; one case was due to scoliosis, and one to syphilis. Four cases were due to overwork; three to nervous shock. In seven cases the cause was undetermined. The authors emphasize the necessity for adopting the well-tried methods of examination that serve so well in plainly developed chronic disease as a routine measure in neurasthenics. Frequently one will discover underlying organic changes responsible for the disturbance in the nervous equilibrium. The relief of the former ought to be followed by relief of the latter. Such cases, they believe, should not be called neurasthenic; they should be called cardiac, arteriosclerotic, nephritic, toxic, etc.

3. Abstracted in THE JOURNAL, Dec. 24, 1910, p. 2260.

5. **Asthma and Anaphylaxis.**—The results of Barach's investigations into the anaphylactic origin of asthma are negative. If anaphylactin was present in the blood of his patient, it could not be demonstrated.

7. **Use of Albumin Milk.**—Albumin milk contains 3 per cent. proteid, 2.5 per cent. fat, from 1 to 1.5 per cent. milk sugar, from 0.4 to 0.5 per cent. mineral salts. The mixture contains 450 calories to each liter. One per cent. of malt sugar is added. Albumin milk is said by Abt to prevent abnormal fermentation in the intestinal tract on account (1) of the low content of easily fermentable sugar; (2) the low content of whey salts (the latter favor fermentation); and (3) the comparatively high proteid content (the latter counteracts fermentation). On standing, a precipitate is likely to form in the bottle containing the albumin milk. Before feeding, the bottle should be shaken well. The quantity to be fed should be warmed to the body temperature and again shaken (overheating is objectionable). The milk should be kept in a cool place. If thus taken care of it preserves its quality well, for at least five weeks.

Albumin milk is indicated, Abt states, in all infantile disorders which are associated with diarrhea, especially those cases in which breast milk is not obtainable. It is also valuable in cases of dyspepsia, entero-catarrh, cholera infantum (intoxication, Finkelstein), atrophy (decomposition, Finkelstein). As these diseases are accompanied or have been preceded by diarrheal attacks, the albumin milk is a valuable diet. The bowel movements soon improve, but the child does not at once gain in weight. As soon as the evacuations have improved, or have become less frequent, sugar in some form should be added. This should not occur too late; certainly at the end of eight days, if not before, sugar should have been added, even if the number and the appearance of the stools leave something to be desired. The albumin milk is given in increasing quantities until the stools have become less frequent. Saccharin may be added at first, so as to make the food more acceptable to the infant's taste. Children over three months of age may have starch in some form added to the albumin milk. The substance to be added is to be stirred up in a small quantity of water (2 ounces), boiled, and then added to the milk. The use of milk sugar or cane sugar is not advisable, since these lead readily to relapses. Much more certain in their action are the maltose preparations, or any of the dry malt preparations which do not contain milk in some form. At first one should add only a few grains of malt sugar to a 3-ounce mixture, but the quantity may be increased from day to day, particularly if the child does not increase in weight, adding 1 per cent. at a time. It is not advisable or necessary, at any time, to add more than 4 per cent. of sugar to the entire mixture. Children over 3 months will sometimes need the addition of starch in the form of flour; 2 or 3 drams of the latter may be added to an entire day's feeding.

Medical Record, New York

January 21

10 Memorial Address on Dr. Robert Koch. J. A. Wyeth, New York.
11 In Memory of Robert Koch. S. A. Knopf, New York.
12 Pylorospasm. M. Einhorn, New York.
13 Surgical Diseases of the Biliary Passages. A. B. Johnson, New York.
14 Oliver Wendell Holmes: His Work in Establishing the Contagious Nature of Puerperal Fever. T. W. Harvey, Orange, N. J.
15 Senile Debility. I. L. Nascher, New York.
16 *Ichthyol in Pulmonary Diseases. W. S. Barnes, New Haven, Conn.
17 Non-Parasitic Cyst of the Spleen; Splenectomy. C. G. Darling, Ann Arbor, Mich.

16. Ichthyol in Pulmonary Diseases.—It is believed by Barnes that ichthyol is a safe and valuable remedy in the treatment of such diseases of the respiratory tract as tuberculosis in the early stages, bronchitis in all its forms, and pleurisy. He says that ichthyol, when given in large doses, as high as 20 grains, three times a day, will produce a tendency toward frequent movements of the bowels. It diminishes the quantity of the discharge from the bronchial mucous membrane and hastens the return to a healthy condition, especially in the case of patients who have recovered from the acute bronchitis but still retain a cough, accompanied by profuse expectoration. Barnes believes that the drug is rapidly broken up in the stomach, and that it acts as a stimulant on the gastric mucous membrane, promoting a larger flow of gastric juice and increasing the power of digestion, thus aiding in the assimilation of food. Patients who have done well under ichthyol immediately begin to show a greater desire for food, and their appetites begin to increase with remarkable rapidity. In prescribing ichthyol for internal administration, Barnes' practice has been to give it in solution, and because of its objectionable taste, it is necessary to combine it with ordinary peppermint water, which makes a fairly palatable mixture. Sometimes he adds a small amount of fluid extract of licorice, together with peppermint water. It should be given after meals. A very convenient form of administration is to give it in the form of a tablet containing 5 grains.

Boston Medical and Surgical Journal

January 19

18 Sanatorium Treatment of Neurasthenia and the Need of a Colony Sanatorium for the Nervous Poor. F. K. Hallock, Cromwell, Conn.
19 Alimentary Gastric Hypersecretion and Gastric Atony. A. E. Austin, Boston.
20 *The Functional Spine. J. D. Adams, Boston.

20. The Functional Spine.—The symptoms of the condition described by Adams are as follows: Subjectively, the patient places his hand over the region of the lower dorsal and upper lumbar spine as indicating the area of pain. He describes it as being in the nature of an ache and a stiffness on attempting to straighten up from a stooping posture. He notices it most on getting up in the morning, it taking him some time to get limbered up, as he expresses it. Examination shows voluntary limitation of motion in the spine as evidenced by flexion in all directions being stopped by muscular spasm. Especially is this noticeable on forward and lateral bending, but hyperextension, where the spinal muscles are relaxed, is not limited. By forcing the patient to full forward and lateral bending, disregarding the pain, and, to a certain extent, overcoming the spasm, it will be noticed that the spine itself is capable of practically full motion in all directions; in other words, this is a "functional back," pure and simple. The one principle in the treatment of this class of cases is rest. This should be accompanied, if possible, by a method which does not incapacitate the patient for work. The second principle of treatment is that of counter-irritation, and the various agencies by which this may be produced are well-known. Adams reports twenty-five cases treated in dispensary and private practice. These cases were all routine, unselected; the occupation of the patients varied: teamsters, tailors, day laborers, namely, those men employed in a vocation necessitating constant use of the back. All presented the classical symptoms of pain, muscular spasm and limitation of motion in varying degrees of intensity. In all, the radiographs were negative. Five of the patients were treated three times a week with fly blisters, five with actual cautery, five with strapping, five with plaster jacket, and five with heat. The treatment was continued over a period of two months. Clinically the results showed conclusively that those treated by heat improved much more rapidly and efficiently than any of the other groups. In fact, at the end of two months all the patients were put on baking. The heat was applied to the bare skin at a temperature of 300 F., for a period of fifteen minutes. The result showed a marked hyperemia with excessive perspiration and with relief from pain. There were no burns and no untoward effects. The intervals of application were gradually lengthened in accordance with the diminution of symptoms. In nearly every case a light pelvic belt was applied as an adjunct to this treatment.

Lancet-Clinic, Cincinnati

January 21

21 Requirements and Limitations of Nitrous Oxid and Oxygen as a General Anesthetic in Major Surgery. C. K. Teter, Cleveland.
22 Cases Treated by Spengler's I. K. (Immune Bodies). W. F. Woolston, Chicago.
23 Foreign Bodies in the Esophagus in Children. W. E. Savage, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

January 13

24 Surgical Aspect of Goiter. R. P. Bell, Staunton, Va.
25 Syphilis and Nicotin as Factors in Cardiovascular Disease. A. G. Brown, Richmond.
26 The Part of Medical Men and Medical Societies in the Public Health Movement. C. R. Grandy, Norfolk.
27 Salvarsan. T. B. Leonard, Richmond.
28 Hygiene of the Eye and Throat. C. R. Dufour, Washington, D. C.

Journal of Experimental Medicine, Lancaster, Pa.

January

29 *Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
30 *Arteriovenous Anastomosis and the Mechanical Theory of Arteriosclerosis. I. Levin and J. H. Larkin, New York.
31 Heat-Sensitive Anticomplementary Bodies in Human Blood Serum. H. Zinsser and W. C. Johnson, New York.
32 Biochemical Studies on So-Called Syphilis Antigen. H. Noguchi and J. Bronfenbrenner, New York.
33 Variations in the Complement Activity and Fixability of Guinea-Pig Serum. H. Noguchi and J. Bronfenbrenner, New York.
34 *Comparative Merits of Various Complements and Amboceptors in Serodiagnosis of Syphilis. H. Noguchi and J. Bronfenbrenner, New York.
35 Interference of Inactive Serum and Egg-White in the Phenomenon of Complement Fixation. H. Noguchi and J. Bronfenbrenner, New York.
36 *Histologic Study of the Skin Lesions of Pellagra. F. B. Gurd, New Orleans.
37 *Pathogenesis of Icterus. G. H. Whipple and J. H. King, Baltimore.
38 Fibrinogen of the Blood as Influenced by the Liver Necrosis of Chloroform Poisoning. G. H. Whipple and S. H. Hurwitz, Baltimore.
39 Changes in the Proteolytic Enzymes and Anti-Enzymes of the Blood Serum Produced by Substances Which Cause Degenerative Changes in the Liver. E. L. Opie, B. I. Barker and A. R. Dochez, New York.

29. Chemo-Immunologic Studies on Localized Infections.—The experimental studies by Lamar show that the results may be reproduced in the treatment of local pneumococcus infections in human beings, particularly after an evacuation of an inflammatory exudate. He found that pneumococci treated with sodium oleate become more subject to autolysis, as is indicated both by the rapidity and the perfection of the process of self-digestion, and at the same time they become subject to serum-lysis. The inhibition of their activity, which the soaps ordinarily suffer in the presence of protein, can be prevented by the addition of an appropriate quantity of boric acid, so that suitable mixtures of serum, soap and boric acid can continue to exert a deleterious and solvent influence on the pneumococci, and the effect is greater when immune serum is employed in the mixtures. Infection can be prevented not only when the mixture of immune serum, soap and boric acid is added to the pneumococci before injection into the peritoneal cavity of small animals, but also when a therapeutic injection of a mixture of the three substances mentioned is made to follow the inoculation of normal, highly virulent diplococci. The limits of the activity of the therapeutic mixture are determined, in part by the

amount of protein to be overcome, and in part by the peculiarities of the infection occurring in highly susceptible animal species.

30. **Theory of Arteriosclerosis.**—From the author's investigation the conclusion must be drawn that arteriosclerosis cannot be induced artificially in a previously healthy blood-vessel by a change in the blood pressure alone, and that the thickening of the wall and the other changes noticed in such vessels is probably due to changes in the adventitia caused by the operative procedures.

34. **Serodiagnosis of Syphilis.**—Noguchi and Bronfenbrenner found that the maximum activity of an antihuman hemolytic amboceptor may be obtained by employing the homologous or heterologous complement, according to the variable relations existing between the species furnishing the amboceptor and the one supplying the complement. Thus, some amboceptors are best reactivated by the complement of the same species, while others may act most strongly when reactivated with the complements of certain suitable heterologous species. Certain species of animals (pig and sheep) yield sera which are comparatively poor in reactivating most varieties of antihuman amboceptors. The complements of these species deteriorate rapidly. For the fixation tests, guinea-pig complement is the most favorable. This complement is also the most active and durable of those which have been studied. The antihuman amboceptors produced in the rabbit and guinea-pig are also suitable. They are, moreover, very active and do not cause the phenomenon of non-fixation. The rabbit is the best animal for producing antihuman amboceptor, and the guinea-pig for supplying complement. The guinea-pig produces a good amboceptor, but its small size renders it second in choice.

36. **Skin Lesions of Pellagra.**—The histologic phenomena of the erythematous and bullous stage of pellagra, Gurd says, are those of a mild acute inflammatory reaction, together with a degeneration in the superficial layers of the corium. Following this degeneration, which involves not only the general connective tissue but the connective tissue of the blood-vessels, there is a reparative change, evidenced histologically by an increased cellularity of the corium and the presence of fibroblasts. The capillaries also are increased in number and much dilated. Apparently as a result of this increased vascularity of the corium, there is an increased proliferation of the epithelium resulting in a thickening of the epidermis. This increase in the thickness of the epithelial layer is especially marked in the prickle cells and the stratum granulosum. In the later stages, in an effort to secure a firm basement membrane, the epithelium is seen to dip down deeply into the rarefied connective tissue. About the blood-vessel, during the reactionary process, are found collections of lymphoid cells, a few plasma cells, but no mast cells or eosinophils. That the irritant producing the degeneration in the corium is sunlight in the presence of some predisposing factor, Gurd believes is suggested by the enormous increase in pigment formation in the epithelial cells and by the large number of chromatophores in the superficial layers of the corium. This pigmentation is autochthonous in both types of cell. There is no reason for believing that the pigment is formed in the cells of the corium and thence discharged into the epithelium, or that the reverse process takes place. The predisposing factor inducing the changes in the corium is, apparently, a lessened resistance of the epithelium to the violet and ultraviolet rays, due to some metabolic insufficiency on the part of the epithelial cells.

37. **Pathogenesis of Icterus.**—The experiments made by Whipple and King indicate that, in obstructive jaundice, the bile which escapes from the liver is absorbed by the hepatic capillaries and carried by the blood to the kidneys. The presence of a thoracic duct fistula influences in no way the development of icterus after total obstruction of the common bile duct. Bile pigments, sufficient to give a Salkowski test, may or may not appear in the lymph of the thoracic duct in such experiments, their appearance possibly depending on the rapidity of bile secretion and the amount of lymph flow. Chronic icterus developing in an animal with a thoracic duct fistula gives an interesting distribution of bile pigments in the body fluids. The lymph and pericardial fluid contain the same amount, which is much less than the content of bile pigment in the blood serum and urine. It seems clear that in both acute and chronic obstructive jaundice the lymphatic apparatus takes no essential or active part in the absorption of bile pigments from the liver. At best, the lymphatic system is a secondary factor in the mechanism of jaundice.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

January 15

40 Esophagoscopy and Bronchoscopy for Removal of Foreign Bodies. A. Schwyzer, St. Paul.
41 Economics of the Pure Milk Question. J. L. Coulter, Minneapolis.
42 Some Next Steps in Sanitation. J. T. Gerould, Minneapolis.

Maryland Medical Journal, Baltimore

January

43 *Medical and Surgical Aspects of Tumors. J. V. Bloodgood, Baltimore.
44 The Faucial Tonsil—Its Relation to Systemic Disease and the Results of Its Removal. S. Rosenheim, Baltimore.
45 Some Esophageal and Bronchoscopic Cases. R. H. Johnston, Baltimore.
46 Alcohol Injections in Treatment of Facial Neuralgia. I. J. Spear, Baltimore.
47 Sanctity of the Relations Between Physicians and Patients. E. L. Crutchfield, Baltimore.
48 Treatment of Diphtheria. E. Anderson, Rockville.

43. Also published in the *Wisconsin Medical Journal*, August, 1910; abstracted in THE JOURNAL, July 23, 1910, p. 44.

Bulletin of the Johns Hopkins Hospital, Baltimore

January

49 *Urinary Hyperacidity and Its Relations to Neuritis, Neuralgia and Myalgia. T. R. Brown, Baltimore.
50 Analysis of the Course of Labor in 100 Occiput Posterior Presentations. C. B. Ingraham, Denver.
51 Poisoning by Vapors of "C.P." Benzol. C. Glaser, Baltimore.
52 *Viscosity of the Blood in Health and Disease. C. R. Austrian, Baltimore.
53 *Case of Sarcoma and Tuberculosis. J. P. Simonds, Indianapolis.
54 Carcinoma of the Right Fallopian Tube Readily Palpable Through the Abdomen. T. S. Cullen, Baltimore.

49. **Urinary Hyperacidity and Neuritis.**—It is shown by Brown that in a certain group of cases of neuritis, neuralgia and myalgia, which for want of a better term, and in the absence of definite or sufficient etiologic factors may be called idiopathic, there is a definite increase in the acid eliminated, although no attempt has been made to determine whether this is due to an increase in the acid phosphates, or in the organic acids. He believes, however, that the latter is more likely, and hopes subsequently to investigate this phase of the subject in detail. For want of a better explanation he suggests that this hyperacidity is probably the urinary expression of some abnormality or error in metabolism, probably having little or no relationship with the gastric digestion or the degree of acid in the gastric contents, but more probably due to metabolic disturbances arising lower in the digestive tract; and that the pain and other manifestations in the nerves or muscles affected are due to some circulating poison or toxin, the condition thus probably being a form of endogenous intoxication. Why certain groups of nerves or muscles should be selected in some cases, other groups in other cases, he is unable to say, though in all probability there has been something in the past history of the patient as trauma, exposure to cold, etc., which has lowered the resistance of the especial nerve or muscle affected. Finally, it seems certain that in some patients the insistence on a simple dietary and copious water drinking and, most important of all, the administration of alkalies in sufficient amount to reduce the acidity of the urine to normal, is followed by marked amelioration of symptoms; and in a few by their complete disappearance without the aid of other remedial agents.

52. **Viscosity of the Blood in Health and Disease.**—Austrian found that the viscosity of the blood and of the plasma is reduced in anemias, either primary or secondary. With regeneration of the blood, normal values are restored. In leukemia there is hypoviscosity of the blood with hyperviscosity of the plasma. Leukocythemia may explain the hyperviscosity of the blood, which is found in a few cases. The viscosity of the blood and of the plasma is increased in polycythemia. Hypo-

viscosity of the blood and hyperviscosity of the plasma is almost constant in cases of nephritis; the former being due to the anemia, the latter to retained products of metabolism. Though in many instances hypoviscosity occurs in cases with hypertension, this interrelation is often absent. In cardiac disease without edema, no constant change in the viscosity is to be found, the coefficient apparently varying with the anemia and the carbon dioxid content of the blood. In cases with hydremia, there is hypoviscosity of the plasma. In diabetes mellitus, the viscosity of the blood and of the plasma is increased, in many cases probably the result of concentration of the blood, due to polyuria, of hyperglycemia and of lipemia. In icterus there is generally increased viscosity of the blood and plasma, probably the result of cholemia. In typhoid, the viscosity varies with anemia, is increased by hydrotherapy, and apparently is uninfluenced by diet. The $\frac{(Hb)}{V}$ quotient is more often decreased than increased. In pneumonia the viscosity is generally above normal due to cyanosis and salt retention. Here, too, the $\frac{(Hb)}{V}$ quotient is low. In malaria the viscosity of the blood is usually normal or subnormal, rarely above normal. The viscosity of the plasma is normal or increased, the last as a result of hemoglobinemia. In no disease studied could a pathognomonic alteration in the viscosity of the blood be demonstrated.

53. **Sarcoma and Tuberculosis.**—The following are suggested by Simonds as possible reasons why the two lesions are not more frequently found associated: (1) The age incidence of the two diseases is not quite the same. Sarcoma and tuberculosis affect all ages, but the former is more frequent before 20 and the latter after that age. (2) The rapidly fatal course of a sarcoma may attract attention to itself so completely that the presence of a mild tuberculosis would not be recognized clinically.

Colorado Medicine, Denver

January

55 The Pancreas; Anatomy and Experimental Pathology. R. W. Corwin, Pueblo.
56 Pathology of Pancreatitis. R. C. Whitman, Boulder.
57 Acute Pancreatitis. A. R. Peebles, Boulder.
58 Chronic Pancreatitis. W. Senger, Pueblo.
59 Surgery of the Pancreas. W. A. Jayne, Denver.
60 Primary Sarcoma of the Appendix. C. A. Powers, Denver.
61 Operative Treatment of Hemorrhoids. H. Heath, Denver.

Journal of Ophthalmology and Oto-Laryngology, Chicago

January

62 Twitching of the Orbicularis Palpebrarum Successfully Treated with Calcium Chlorid. T. C. Burnett, Berkeley, Cal.
63 Some Unusual Magnet Cases. W. A. Fisher, Chicago.
64 Cysts of the Antrum of Highmore. J. R. Fletcher, Chicago.

Journal of the Delaware State Medical Society, Wilmington

January

65 Ideals in Medicine. P. M. Downs, Dover.
66 Erysipelas Treated with Streptococcic Bacterins. A. Robin, Wilmington.
67 Chronic Non-Malignant Disease of the Tonsils. J. A. Ellegood, Wilmington.

Surgery, Gynecology and Obstetrics, Chicago

January

68 *Stereoscopic Radiography as an Aid to the Surgeon. E. G. Beck, Chicago.
69 Cancer of the Uterus and Its Cure by the Radical Abdominal Operation. R. Peterson, Ann Arbor, Mich.
70 Kidney Displacements and Dystocia. P. Willson, Washington, D. C.
71 Operative Cure of Cicatricial and Congenital Deformities of the Face. J. B. Roberts, Philadelphia.
72 *Best Method of Exposing the Interior of the Bladder in Suprapubic Operations. H. A. Kelly, Baltimore.
73 Significance of the Lane Kink of the Ileum. F. H. Martin, Chicago.
74 *Hemorrhage of the New-Born Infant; Treatment by Direct Transfusion of Blood. V. D. Lespinasse and G. C. Fisher, Chicago.
75 *Experiments on the Renal Artery. V. D. Lespinasse, G. C. Fisher and J. A. Wolfer, Chicago.
76 *Treatment of Painful Feet. J. L. Porter, Chicago.
77 Acute Free Suppurative Peritonitis. J. Halpenny and J. Gorrell, Winnipeg.
78 *Value of Sulphonephthalein in Estimating the Functional Efficiency of the Kidneys. C. Goodman and L. Kristeller, New York.
79 *Pneumatic Rupture of the Intestine; A New Type of Industrial Accident. E. W. Andrews, Chicago.
80 A Malignant Lymphoma of the Small Intestine. C. L. Scudder, Boston.
81 The Roux Operation in Dilatation of the Stomach. R. E. Balch, Kalamazoo, Mich.
82 Non-Inflammable Celluloid Splints and Braces. W. G. Stern, Cleveland, Ohio.
83 Finishing the Buttonhole Stitch. J. J. Buchanan, Pittsburg, Pa.
84 Bone Wiring with Picture Wire. J. Schwinn, Wheeling, W. Va.
85 Thrombosis Postabortum of Left Ovarian Vein; Hysterectomy; Death from Continued Thrombophlebitis. R. T. Frank, New York.
86 *Modification of Usual Technic in Delivery of the First Arm in Podalic Version or Breech Presentation. D. C. Guffey, Kansas City, Mo.

68. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1584.

72. **Best Method of Exposing Interior of Bladder.**—In the method described by Kelly, the patient is put in the Trendelenburg posture, after first emptying and cleaning out the bladder, and introducing a mushroom catheter large enough to fill the urethra. A semilunar incision is made through the skin and fat of the lower abdomen about one inch above the symphysis pubis, with the concavity toward the umbilicus and about six inches long. The small bleeding vessels are controlled. The dissection of the upper skin and flap away from the deeper tissues is next made, when the deep fasciæ overlying the recti muscles and the adjacent oblique muscles out beyond the semilunar line are clearly exposed. Next the deep fasciæ are divided, also from side to side, without cutting any of the underlying muscular tissues. The fasciæ are then freed from the muscles with the blunt dissection. To effect this detachment it is, as a rule, only necessary to push the gloved finger up between the muscles and fasciæ; in the median line, however, the detachment must be made by means of scissors or a knife. When the loosened fasciæ have been drawn up and down, the underlying flaccid recti muscle bellies are exposed and easily retracted to the right and left, and this affords an extraordinary avenue of approach to all the tissues lying between the peritoneum (seen as a roll in the upper part of the wound near the point of the forceps lying across the abdomen) and the symphysis pubis. An inflating rubber bulb is now attached to the mushroom catheter in the bladder and squeezed so as to fill the bladder with air and to bring it up into the wound. The empty bladder is then caught by two guy sutures and incised in a transverse direction between them. If the opening is carefully made, there need be no contamination, as the bladder is held up by the guy sutures and will not spill its contents into the wound. As soon as the bladder is cut into, the opening is enlarged as much as may be necessary from side to side. The base of the bladder is brought perfectly into view and is easily accessible for all operative procedures. After completing whatever operation the circumstances of the case may demand, the operator closes the bladder by such method as he prefers, with or without drainage, taking care to utilize the perivesical fasciæ in the outermost row of sutures, he closes the abdominal wall down to the little suprapubic drain, if one is called for. By first uniting the recti with catgut and then uniting the deep fasciæ of the abdominal wall, leaving room in most cases for a small drain in the median line, the operation is completed.

74. **Hemorrhage of New-Born Infants.**—A review of the literature and the observation of one case have convinced the authors that direct transfusion of blood is the ideal treatment for hemorrhage of the new-born; it meets and overcomes in an ideal manner the three chief indications: hemorrhage, anemia and infection. Transfusion checks the hemorrhage at once and cures the acute anemia. Direct transfusion of blood fills the baby's veins with a plasma that is more resistant to infections than the original plasma. In the cases without syphilitic taint, direct transfusion of blood is an absolute specific. It is best performed early, but it is never too late, and the operation should be tried in every case before the child dies.

75. **Experiments on the Renal Artery.**—The technic of this method of vessel anastomosis was published in THE JOURNAL, Nov. 19, 1910, p. 1785.

76. **Treatment of Painful Feet.**—The four essentials mentioned by Porter are rest, supination, support and exercise.

In addition to these, he says, operation may be necessary, as in cases with exostoses or contracted tendons, but whatever be the condition under treatment, if the predominating symptom is pain, the first four procedures are essential.

78. **Sulphonephthalein in Estimating Kidney Function.**—According to Goodman and Kristeller phenolsulphonephthalein lends itself to accurate colorimetric measurement. The drug does not readily decompose in solution and can be sterilized by boiling. The dose required is small, 1 c.c. of solution containing 0.006 gm. of the dye. The injection is painless, and is not followed by irritation if the solution is sufficiently alkalin. It is excreted entirely by the kidneys and can be demonstrated in the urine in from three to ten minutes after the subcutaneous injection. From 50 to 70 per cent. is excreted during the first two hours. The quantity of dye recovered in a specimen within a given time is not influenced by the volume of urine. The presence of pus, phosphates, bile and indican does not interfere with the colorimetric estimation of this drug.

79. **Pneumatic Rupture of the Intestine.**—Fifteen cases are reported by Andrews in which compressed air caused an intestinal rupture. One of these cases was observed by the author; the others were collected by him through correspondence with other observers. The sigmoid colon is the viscus usually burst. Prompt evacuation of the air by emergency puncture and early laparotomy offer the only chance of saving life after this injury. Andrews warns against the dangers of practical joking or hazing with the air nozzle or even the careless use in dusting clothing.

86. **Podalic Version or Breech Presentation.**—The method proposed by Guffey consists in the delivery of the arm at the same time the body is delivered. When the feet (or the foot, if desired) have been delivered at the vulva, one hand of the operator holds them while the other is introduced into the uterine cavity and an arm seized, preferably the right, since the bringing of this arm into the left sacroiliac fossa will cause the head to engage in the more desirable right oblique with the occiput anterior. The hand of the child is then brought into the vagina and traction is made on it at the same time as on the feet or body. The hand of the operator is not removed from the vagina until the breech presents at the vulva or is actually born. As the body is grasped by the outspread hands the arm is included. The body with the first shoulder and arm is delivered, not more than one minute being required for this portion of the delivery. The second arm and the head are delivered by the usual method. The proposed method has been used by Guffey in ten cases: eight podalic versions and two breech presentations. The disadvantages of this method are said to be (1) the added risk of infection from the introduction or reintroduction of the hand into the uterine cavity; (2) the inability to introduce the hand into the uterine cavity; (3) the size of the operator's hand. The advantages of the method are: (1) much valuable time is saved; (2) lacerations of importance are less likely to occur; (3) fractures of the humerus or clavicle will be less likely to occur; (4) if cervical dilatation is not complete it may be completed manually when the hand is passed in for the arm.

Kentucky Medical Journal, Bowling Green

January 1

87 Present Status of Surgery of the Thoracic Cavity, Experimental and Applied. W. E. Senour, Bellevue.
88 *Indications and Technic of Cerebral Decompression. E. S. Allen, Louisville.
89 *Fracture of the Base of the Skull. D. C. Donan, Horse Cave.
90 *Intracranial Complications of Otitis Media. G. C. Hall, Louisville.
91 Cancer of Breast—Diagnosis and Treatment. J. T. Reddick, Paducah.
92 *Cancer of the Uterus. W. H. Wathen, Louisville.
93 *Diagnosis and Treatment of Cancer of the Gastro-Intestinal Tract. J. H. Blackburn, Bowling Green.
94 Cancer of the Urogenital Tract; Diagnosis and Treatment. C. L. Wheeler, Lexington.
95 *Inguinal Hernia. B. F. Van Meter, Lexington.
96 Diagnosis and Treatment of Enterocolitis in the Adult. E. A. Stevens, Mayfield.
97 *Neurasthenia. W. F. Boggess, Louisville.
98 Popliteal Aneurysm with Report of Matas Operation. J. R. Murnan, Covington.
99 *Family Physician Refracting as a Factor in Medical Practice, and Its Promotion During 1910. L. Connor, Detroit.

88, 89, 90, 92, 93, 95, 97. Abstracted in THE JOURNAL, Oct. 22, 1910, pp. 1493-1495.

99. Abstracted in THE JOURNAL, April 16, 1910, p. 1333.

Northwest Medicine, Seattle

January

100 *Bladder Sequelæ of Hysterectomy and Salpingo-Oöphorectomy. G. S. Peterkin, Seattle.
101 Early Diagnosis of Pulmonary Tuberculosis. R. W. Matson, Portland, Ore.

100. **Bladder Sequelæ of Hysterectomy.**—Within one year, eleven women have been referred to Peterkin because of urinary symptoms—frequent and painful urination, etc. Six patients had had hysterectomies; all had cystoceles. Two patients had never borne children so that in each the perineum was intact. Of the four remaining, only one showed a perfect repair of the perineum and all four stated that attempt at repair had been made previous to the hysterectomies. Four of the six hysterectomies had been vaginal. Peterkin concludes that vaginal hysterectomy should be considered an antiquated operation, for proper care cannot be given to the support of the bladder and thus cystocele prevented. Had the operators at the time of the operations given proper care to the bladder, cystocele would not have occurred, requiring a secondary surgical operation. Because hysterectomy is performed, there is no reason why perineal tears should not be repaired. Cystocele was the cause of the urinary symptoms complained of in these cases. Salpingectomy and oöphorectomy Peterkin regards as scientific operations only when they aim to leave the pelvic viscera in a normal position, and he also states that the man who performs nephropexy, without repair of the pelvic viscera when prolapse exists, is not a surgeon but an operator.

Journal of the Missouri State Medical Association, St. Louis

January

102 The Internal Splint in the Treatment of Fractures. H. E. Pearse, Kansas City, Mo.
103 Roentgen-Ray Localization of Foreign Bodies. R. D. Carman, St. Louis.
104 Refraction. J. W. Sherer, Kansas City, Mo.
105 Berck-Sur-Mer: A City of Hospitals for the Treatment of Bone Tuberculosis. A. E. Horwitz, St. Louis.
106 Intestinal Obstruction from Appendiceal Adhesions. C. R. Dudley, St. Louis.
107 Hypnotism as a Therapeutic Agent. J. M. Bradley, St. Louis.
108 Chronic Mastoiditis and Cholesteatoma. I. D. Kelley, St. Louis.
109 The Bladder in Inguinal and Femoral Hernias. W. T. Coughlin, St. Louis.

Texas State Journal of Medicine, Fort Worth

January

110 *Relation of Bovine to Human Tuberculosis from a Public Health Viewpoint. W. S. Carter, Galveston.
111 Comparison of the Morphologic and Cultural Characteristics of the Human and Bovine Types of Tubercle Bacilli. J. J. Terrill, Galveston.
112 Relative Importance of the Infection and Transmission of Bovine and Human Tuberculosis to Public Health. W. R. Howard, Fort Worth.
113 The Microscope in Tuberculosis. R. B. Leavell, San Angelo.

110. **Relation of Bovine to Human Tuberculosis.**—Carter holds that from experiments, as well as statistics, one is not justified in assuming that primary pulmonary tuberculosis is caused by bacilli that have been absorbed from the intestine. On the contrary, it is highly improbable that such is the case, for as yet, the bacilli of bovine type have never been recovered from the lesions of primary tuberculosis of the lungs in man and they have only been found in the sputum of two or three isolated instances, which were not free from some criticism. Bacilli of the bovine type have been recovered from a considerable number of cervical and mesenteric lymph glands in children and from the lungs in some cases of generalized tuberculosis in children. In these latter cases the resistance might have been slight, or there might have been an invasion by unusual numbers of bacilli of high virulence. However, he says our efforts should be directed chiefly against the infection from man to man, but that is no reason for neglecting the less frequent infection from cattle. Even if no more than 1 or 2 per cent. of the fatal cases of tuberculosis in man are caused by bacilli of the bovine type, that

cannot be considered a negligible quantity. The non-fatal cases of surgical tuberculosis in children must be taken into consideration. All the efforts that have been made to prevent the use of the milk and butter from tuberculous cattle have been justified, as public health measures, and should be continued. We should not, however, neglect any measures which can prevent infection by inhalation. All phophylactic measures that have been taken to prevent the spread of bovine tuberculosis among cattle have also been warranted from an economic standpoint alone, without any reference to the public health. It is perhaps impossible to completely eradicate bovine tuberculosis, but all tuberculous cattle should be eliminated from dairy herds. This could be done by systematically testing all dairy cattle with tuberculin and branding those which give a positive reaction. These cows could probably be used as beef cattle with safety, provided all tuberculous tissues are removed and all advanced cases are excluded. This seems to be a much safer plan than to use the milk for butter-making after pasteurization. Pasteurization at the diary is often not done efficiently and most of the butter is consumed without subjecting it to a temperature which would kill tubercle bacilli. In the absence of dairy inspection and the testing of milch cows by tuberculin, the only certain way of preventing infection by bovine tubercle bacilli is the pasteurization of the milk. This should be done by the individual consumer, rather than trust to the uncertain pasteurization by dairymen.

Illinois Medical Journal, Springfield

January

114 Operative Cure of Cicatricial and Congenital Deformities of the Face. J. B. Roberts, Philadelphia.
115 *Joint Diseases from the Orthopedic Standpoint. J. Ridlon, Chicago.
116 *Neurologic Features in Some Joint Lesions. A. Church, Chicago.
117 *Bacteriology and Pathology of Arthritis. E. E. Irons, Chicago.
118 Importance of Medical Organization in the Diffusion of Medical Knowledge and the Promotion of Ethical Relations Among Physicians. J. W. Smith, Bloomington.
119 Gastro-Intestinal Disorders of Infancy and Early Childhood. J. W. Van Derslice, Chicago.
120 *Skull Fracture. F. C. Schurmeier, Elgin.
121 *Symptoms and Treatment of Exophthalmic Goiter. C. C. Rogers, Chicago.
122 Superstitions of the Medical Profession in Regard to Contagious Diseases. J. E. Stubbs, Chicago.
123 Pleurisy from the Medical Standpoint. T. E. Macauley, Elgin.
124 Edema of the Prostate. G. Kolischer and H. Kraus, Chicago.

115, 116, 120 and 121. Abstracted in THE JOURNAL, June 4, 1910, pp. 1892 and 1893.

117. Abstracted in THE JOURNAL, May 28, 1910, p. 1808.

Journal of Cutaneous Diseases, New York

January

125 Nodular Tuberculosis of the Hypoderm. G. W. Wende, Buffalo, N. Y.
126 Mycosis Fungoides. L. G. Pardee and F. R. Zeit, Chicago.
127 *An Unusual Case of Tinea Versicolor. E. L. McEwen, Chicago.

127. **Tinea Versicolor.**—The patient in this case was a man, aged 27, with incipient tuberculosis of the lungs. The skin eruption had been present twelve years. It had never disappeared and there had been no recent treatment. Subjective symptoms were absent. The parts involved were the back from the shoulder to the buttocks, the chest and upper portion of the abdomen, the infra-axillary regions, the arms, especially the outer aspects, and the upper portions of the forearms. In places on the arms and chest the appearance was quite typical of tinea versicolor; various sized areas, non-elevated, of irregular outline, brownish in color, slightly furfuraceous. Between these areas and on the other parts affected, especially the back, the lesions were discrete, flat-topped papules, reddish-brown in color, hemp-seed to split-pea in size, follicular in location, usually pierced by a hair. The skin between the papules was normal. The elevation was distinct and could readily be seen with the eye and felt by the palpating finger. The impression given by a superficial examination of the skin was that a lichenoid follicular inflammation was present. The lesions of pityriasis rubra pilaris especially were suggested. The papules, however, could be removed with a curette; the skin beneath appeared pale and non-inflammatory, and the debris so removed showed under the microscope luxurious masses of the *Microsporon furfur*.

United States Naval Medical Bulletin, Washington, D. C.

January

128 Diphtheria Prophylaxis in the Navy. C. S. Butler.
129 Salvarsan. R. Spear.
130 Diagnostic Methods in Otology Applicable to the Naval Service. G. B. Trible.
131 *Bier's Hyperemia in Acute Gonorrheal Arthritis. H. F. Strine.
132 Mental Examination of Candidates for Enlistment in the Navy and Marine Corps. H. Butts.
133 Recent Outbreak of Cholera in Italy. C. J. Holeman.
134 United States National Museum in Its Relation to Other Government Scientific Collections. P. E. Garrison.
135 A Sanitary Garbage-Can Holder. H. C. Kellers.
136 *The Blanket Splint. F. X. Koltes.
137 Four Transfusions by the Vein-to-Vein Method with Curved Glass Tubes. A. M. Fauntleroy.
138 Bilateral Inguino-Superficial Hernia with Bilateral Undescended Testicle. H. C. Curl.
139 Larvæ in the Deep Urethra and Bladder. H. F. Strine.
140 An Extensive Razor Wound of the Throat. W. G. Farwell.
141 Two Cases of Heat Cramps on U. S. S. *Charleston*. H. A. May.
142 Fatigue and Exhaustion in the Fireroom. F. G. Abeken.
143 A Case of Diabetes Mellitus. A. C. Stanley.
144 Sciatica Incident to Physical Test. J. A. B. Sinclair.
145 Poisoning from Injection of Bismuth Paste. C. E. Camerer.

131. **Biers' Method of Treatment in Acute Gonorrheal Arthritis.**—When properly applied and controlled, Strine finds that Bier's treatment of joints acutely involved by gonorrheal infection produces definite beneficial results. Relief of symptoms is striking, the disease is cut short, and permanent damage to the joint is prevented. The hyperemia produced must be intense. Of course, the pulse must not be obliterated. Usually the fault lies in not sufficiently obstructing the return circulation. If the edema at any time becomes too pronounced, or signs of blocked circulation appear, remove the bandage, elevate the limb for one hour, then replace the bandage. Instruct the patient to test frequently the temperature of his hand or foot, as the case may be, and keep him under observation.

136. **The Blanket Splint.**—This improved appliance is made as follows: Depending on their thickness, two or three blankets are folded in such a way as to form a strip, the width of which corresponds to the length of the intended splint (if for fractured leg, the distance from 4 inches below the heel to 6 inches above the knee). The strip is rolled from both ends about pieces of broom handle which serve to give rigidity, the rolls meeting in the center and being of equal diameter. The apparatus is turned over, the rolls separated a little, allowing the intervening portion to sag, thus forming a kind of hammock. The splint is applied as follows: An assistant raises the limb (a leg in this case) to a considerable angle, while under it are laid transversely pieces of wide muslin bandage about four feet long. The splint is then placed on the strips, the injured member is laid on the hammock, and, depending on the diameter of the limb at the point of apposition, the rolls are separated or folded in as necessary, so that they may be everywhere firmly applied to the sides, and that the leg may everywhere rest on the hammock. While the surgeon holds the limb securely within the splint, the assistant brings the muslin strips around and ties them firmly in front, one below the heel, one below the knee, one above the ankle, and one above the knee, some cotton being inserted underneath for padding, if necessary. The strip below the heel serves to keep the foot at proper flexion and it may be supplemented by a piece of cardboard. In cases in which the blankets are likely to become soiled with discharges, a piece of rubber sheeting may be employed.

Iowa Medical Journal, Des Moines

January

146 The Brighter Side of Modern Surgery. I. S. Bigelow, Dubuque.
147 Cathartics in Acute Intestinal Obstruction. W. Jepson, Sioux City.
148 Diagnosis of Renal Calculus. O. J. Fay, Des Moines.
149 Intracranial Hemorrhage. G. G. Cottam, Rock Rapids.
150 Fractures of the Skull. A. M. Pond, Dubuque.
151 Woven Elastic Bandage in Simple Fracture of the Patella. A. B. Poore, Cedar Rapids.
152 Common Types of Coma. C. P. Howard, Iowa City.
153 An Epileptic Colony. G. H. Hill, Des Moines.

Journal of the Arkansas Medical Society, Little Rock

December

154 Uterine Fibromyoma: Wide Range of Complication. J. W. Smith, Hot Springs.

California State Journal of Medicine, San Francisco

January

155 Functional Periodicity in Women and Some of the Modifying Factors. C. D. Mosher, Palo Alto.
156 Salvarsan. D. W. Montgomery, San Francisco.
157 Serodiagnosis of Syphilis. L. S. Schmitt, San Francisco.
158 Insects and Medicine. C. Wellman, Oakland.
159 Epidemic Cerebrospinal Meningitis. F. G. Canney, San Francisco.
160 Renal Tuberculosis. G. S. Whiteside, Portland, Ore.
161 Cooperation of School Health Departments with Other Health Agencies. E. B. Hoag, Berkeley.
162 A Brief Account of Ludwig Pick's Work on Chorioepithelioma. D. Hadden, Oakland.
163 Heart Tonics. W. E. Bates, Davis.
164 Multiple Papillomata of the Urethra. L. Gross, San Francisco.
165 Impotentia Cœundi and Sexual Neurasthenia, and Their Treatment. A. B. Grosse, San Francisco.
166 Filariasis Treated by the Wherry-McDill Method (Cinchonization and Roentgen Irradiation). E. v. Adelung, Oakland.
167 Splenomegaly with Fatal Hematemesis. W. A. Sawyer, Berkeley.
168 Subcutaneous Injuries of the Abdominal Contents. O. D. Hamlin, Oakland.
169 Hospital Service for Railroad Construction Camps in the Pacific Northwest. W. O. Spencer, Huntington, Ore.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 7

1 Surgical Treatment of Venous Thrombosis. W. Bennett.
2 *Some of the Rarer Occurrences in the Rheumatism of Childhood. F. J. Poynton.
3 *Kidney Pain. E. H. Fenwick.
4 *Prevention of Heart Disease. W. Calwell.
5 *Treatment of Rodent Ulcer. E. G. Little.
6 *Excision of Cancer of the Esophagus. W. A. Lane.

2. **Rheumatism of Childhood.**—Among the conditions mentioned by Poynton are rashes, erythema nodosum, venous thrombosis, tachycardia, mastitis, hematemesis and epistaxis.

3. **Kidney Pain.**—Fenwick emphasizes, on physiologic and clinical grounds, the fact that the kidney is able to feel in only two areas—the pelvis and the neighborhood of the true capsule. Occasionally patients are encountered who do not have sensation in either area, and then crippling and progressive disease of the kidney may be painless from start to finish. The commonest structural change accompanying kidney pain is a distended pelvis; the commonest cause of kidney pain is dilatation of the renal pelvis. Cases in point are cited.

4. **Prevention of Heart Disease.**—Calwell holds that prevention of heart disease embraces (1) more accurate registration of deaths, so that the huge group labeled "syncope" may be analyzed; (2) the labors of the clinical bacteriologist to teach us what is rheumatic fever and how we may prevent it; and (3) a spread of real knowledge and education, so that men may learn not to treat the heart and blood-vessels as a careless and reckless schoolboy treats his bicycle, but as a skilled engineer treats a strong yet delicately balanced piece of complicated mechanism that reacts quickly, silently, mysteriously, to every touch of the skilled hand.

5. **Treatment of Rodent Ulcer.**—Little endorses the treatment of rodent ulcer by freezing. He reports eleven cases.

6. **Excision of Cancer of Esophagus.**—The principle of the operation done by Lane is to excise the portion of the esophagus affected by cancer, together with any glands, keeping well away from the diseased area, and to replace the segment of esophagus removed by means of a strip of skin cut transversely from the neck, and retaining an attachment and a blood-supply, the continuity of the esophagus being completely restored. After an interval of sufficient length for the firm union of the skin esophagus to the portion of the normal esophagus at the lines of section, the attachment of the flap of skin by its base to the skin of the neck is divided, and any lateral aperture in the skin esophagus which may remain is closed. Except when the growth involves the extreme upper limit of the esophagus or invades the upper aperture of the larynx, it would probably be possible to avoid performing tracheotomy. Till the edges of the skin esophagus have united to those of the esophagus, a tube for feeding purposes should be retained in position. In the case reported, the growth, which was very dense, was found to involve the upper 2 inches of the esophagus. In spite of the precautions of an extensive operation and subsequent treatment by radium, an indurated mass appeared in the neck in the vicinity of the operation and discharged itself externally, leaving a sinus. Through this aperture, a sudden profuse hemorrhage took place, resulting in the death of the patient six months after the operation. Necropsy showed that the growth had recurred in a small area in the left side of the neck, and that it had invaded the carotid artery, whose wall gave way in consequence. The area of esophagus made by skin did not differ in appearance from the adjacent portion of normal esophagus, with which it had become continuous.

Lancet, London

January 7

7 Report by the Education Committee Presented to the General Medical Council. H. Morris.
8 *Ultra-Chronic Pulmonary Tuberculosis. H. B. Shaw.
9 *Some of the Rarer Causes of Acute Abdominal Conditions. W. H. Battle.
10 A Case of Interstitial Pregnancy; Sac Removed Unruptured by Abdominal Hysterectomy. A. H. N. Lewers.
11 *The Cardiac Diastolic Sound and Impulse. T. Fisher.
12 British Health Resorts for Foreign Invalids. N. Wood.
13 *Iodin as a Disinfectant of the Skin Before Operations. W. Evans.
14 *Pulmonary Tuberculosis Treated by Continuous Antiseptic Inhalation. I. B. Yeo.
15 Perithelioma of the Great Omentum; Excision. W. G. Nash.
16 *Relation of Acute Phosphorus Poisoning to Acidosis. H. L. Tidy.
17 A Case of Digitalis Heart-Block. E. E. Laslett.
18. Technic of Intravenous Injection of Salvarsan. O. Grünbaum.
19 *Raw Meat and Raw Meat Juice in Treatment of Tuberculosis and Wasting Diseases (Zomo-Therapy). J. Hericourt.

8. **Ultra-Chronic Pulmonary Tuberculosis.**—Of 1,532 patients who had been found to show tubercle bacilli in the sputum, and to have present signs indicative of pulmonary disease, 303 were found by Shaw to have had the disease for five or more than five years. But in this number there are included some whose tuberculosis for some years existed, so far as can be ascertained, only in some part of the body other than the lungs, e. g., they may have first of all suffered from tuberculous dactylitis, adenitis or hip disease. These 303 patients include some who have had the benefit of in-patient and sanatorium treatment. Excluding these latter and also those whose tuberculosis expressed itself first in some system other than the pulmonary one, 212 cases are left, and from this number of patients observations are presented by Shaw to show how chronic may be the course of pulmonary tuberculosis subjected to the very trifling help, so far as the direct treatment is concerned, afforded in out-patient practice. These patients have succeeded in many cases in maintaining families, and that under conditions which are the very reverse to those which would be chosen to help arrest the disease. The occupation of these patients shows that indoor employment does not necessarily preclude survival with the disease during a considerable number of years, because all but eight of the fifty-three patients followed vocations within doors. One patient was still living after thirty-four and one-half years.

9. **Rare Causes of Acute Abdominal Conditions.**—Battle discusses acute hemorrhagic pancreatitis, acute dilatation of the stomach, hemorrhage from the stomach and enterospasm.

11. **The Cardiac Diastolic Sound and Impulse.**—Although a diastolic sound is commonly present in association with temporary ill-health in which the heart probably suffers, Fisher says it is, perhaps, most marked in cases of organic disease. In those cases, however, the sound may be strangely inconstant; that is to say, it may be distinctly audible one hour and not the next. The character of the impulse and the character of a cardiographic tracing, as might be expected, change with the alteration of the sounds. In mitral stenosis the presence of a diastolic sound distinct from the presystolic murmur is frequently observed. The sound need not, however, be limited to the apex, like the true presystolic murmur, but may be heard widely over the heart.

Fisher suggests that possibly the fact that it frequently occurs when inspiration is commencing to lend its aid to diastole of the ventricles may be considered to support the view that a diastolic sound is in some way connected with active diastole. A fact which he also urges in support of such a view is the occurrence of a diastolic sound in association with hypertrophy of the heart. The presence of the sound in the large heart of Bright's disease has frequently been the subject of comment. Another variety of hypertrophy in which the sound occurs is that associated with adherent pericardium in children. Here the sound may sometimes be so prolonged as to be readily mistaken for a presystolic murmur.

13. **Iodin as a Disinfectant of the Skin Before Operation.**—Evans endorses the use of iodin as a disinfectant—30 parts of chloroform to 1 of iodin, or half tincture strength, 1 in 80, or 1.25 per cent. He says that it is strong enough for all ordinary cases.

14. **Treatment of Pulmonary Tuberculosis by Inhalation.**—Yeo reviews some of his previous papers in which he recorded his observations on this treatment. They were, in the main, favorable.

16. **Acute Phosphorus Poisoning and Acidosis.**—Tidy emphasizes the connection of the secondary stage of acute phosphorus poisoning with acidosis.

19. **Raw Meat and Raw Meat Juice in Wasting Diseases.**—The author states that it is probably no exaggeration to say that the raw meat treatment of pulmonary phthisis yields results not approached by any other means at present available. Nevertheless, the benefits of zomotherapy are by no means limited to tuberculosis. Raw meat juice is of the greatest service in the various forms of anemia and chlorosis, in typhoid, neurasthenia, rachitis, and scurvy rickets, during convalescence, after hemorrhage, in fact, whenever it is desired to reinforce the defensive apparatus of the organism and repair the ravages of disease.

Australasian Medical Gazette, Sydney

November

20 Extraction and After-Treatment of Senile Cataract. W. O. Maher.
21 Abdominal Section. A Record of 1,400 Cases. A. J. McDonnell.
22 Diagnosis and Surgical Treatment of Malignant Disease of the Stomach. H. C. Hinder.
23 Partial Gastrectomy and Colectomy for Cancer. T. Fiaschi.
24 Cases Simulating Extra-Uterine Pregnancy. A. Watson.
25 Cause, Effect, Incidence and Prevention of the Pneumokoniosis of Quartz-Miners (concluded). J. S. Purdy.
26 Practical Application of the Symptom-Complex in Ruptured Abdominal Hydatid Cyst. A. H. Tebbutt.
27 A New Generalization in Serotherapy. D. M. Paton.
28 Malignant Endocarditis. F. S. Hone.
29 Temporary Bradycardia, with Ventricular Asystole. C. T. de Crespigny.

Clinical Journal, London

December 28

30 A Paralytic Stroke. S. Taylor.
31 Stricture of the Urethra and Its Treatment. C. A. R. Nitch.

January 4

32 Adams-Stokes Disease. F. Taylor.
33 *Septicemia Hemorrhagica. W. G. Spencer.
34 *Gastric and Intestinal Hemorrhages After Abdominal Operations. J. Hutchinson.

33. **Septicemia Hemorrhagica.**—Several cases of acute hemorrhagic cellulitis are cited by Spencer. They were (1) hemorrhagic cellulitis of the arm; (2) acute hemorrhagic cellulitis of the left buttock and thigh; (3) hemorrhagic cellulitis of the thigh; (4) hemorrhagic cellulitis round the knee; (5) acute subcutaneous hemorrhage following viper bite. A case of hemorrhagic enteritis is interesting. A young woman, aged 24, had diarrhea and, at first, occasional hemorrhages from the bowel, with vomiting and foul stools. Then she began to pass large quantities of blood by the stools, and lapsed into a state of acute anemia, with a pulse rate of 120, but at no time did the temperature vary much from normal. There was an absence of all signs of typhoid, and tuberculous enteritis. On the day preceding death there was noted for the first time a tenderness in the right iliac fossa, followed by clear signs of commencing infective peritonitis. The general condition of the patient was different from the common type of acute gangrenous appendicitis. The pulse was very rapid and weak, 130 or 140 a minute, but the temperature continued normal. The abdomen was a little tumid, but nowhere persistent or tender, except over the appendix. The appendix was removed as quickly as possible. No gangrene or pus, or sign of typhoid or tubercle, was found; there was congestion of the peritoneum around, and blood-stained fluid was sponged out of Douglas' pouch. The patient failed to react to saline infusion; she died four and a half hours after the operation; there was no post-mortem. The appendix removed was distended to the size of the end joint of the little finger by blood and mucus, but there was no evidence in the interior of gangrene or pus. The microscopic examination showed acute hemorrhagic inflammation of the mucous and submucous coats, in which were numerous cocci and rods. Several cases of renal hemorrhage are also cited.

34. **Gastric and Intestinal Hemorrhages.**—It is held by Hutchinson that hemorrhage into stomach and intestine due to small ulcers or erosions may develop after an operation, usually abdominal, has been performed. In 80 per cent. of the cases a severe septic infection with secondary anemia is present before the operation, the latter in itself having no direct influence on the hemorrhage. Similar lesions of the stomach or duodenum are found in certain cases of disease in which no operation has been performed; 80 per cent. of these cases are septic in nature. It is probable, Hutchinson believes, that a profound alteration in the blood, due in most cases to toxins of septic origin, is the chief factor in the production of these erosions. Such hemorrhage is of very grave significance, though a few patients recover from it. Operative interference does not appear to hold out much prospect of success in these cases, but further experience is needed on this point.

Indian Medical Gazette, Calcutta

December

35 Treatment of Syphilis at Aix-La-Chapelle. V. B. Green-Armytage.
36 Gynecologic Laparotomy, General and Statistical Observations Based on 150 Consecutive Operations, Performed in the Campbell Hospital, Calcutta. K. Das.
37 *Influence of Dysentery on Incidence and Mortality of Tuberculosis of the Lungs. W. Gillitt.
38 *Treatment of Amebic Abscess of the Liver by Aspiration and Injection of Quinin. L. Rogers.
39 Cholera Treated by Rogers' Method of Infusion of Hypertonic Saline Solution. T. C. Rutherfoord.
40 Suction Treatment of Abscesses. W. E. McKechnie.
41 Sanitation in the Hills. L. Reynolds.
42 Subcutaneous Injection of Quinin in Malaria. H. Stott.

37. **Dysentery and Tuberculosis.**—In order to analyze the relationship between dysentery and tuberculosis, Gillitt divides the cases into the following types: (1) Tuberculosis of the lungs terminating in an attack of acute dysentery. (2) Chronic dysentery and tuberculosis occurring at the same time both of long standing and with no evidence to show which began first. (3) Chronic or recurrent dysentery followed by tuberculosis of the lungs. Among fifty-three cases of tuberculosis, thirteen (24.5 per cent.) showed ulceration of the colon and rectum. The ulcers occurred chiefly in the large intestine, although occasionally the lower part of the ileum was also involved. In one case, chronic dysentery and tuberculosis of the lung occurred at the same time with no evidence to show which was the primary lesion. Seven patients appeared to have developed the disease after suffering for some time from chronic dysentery. In only two of these seven cases was there actual ulceration of the large intestine at the time of death, described as "chronic." In two other cases there were scars of dysenteric ulcers, while in the other four the fact that tuberculosis followed chronic dysentery, and was presumably dependent on it, was expressly stated. In another case, the patient was in the hospital for three months suffering from chronic dysentery, and at the time of death there were tuberculous cavities at both apices. The total number of cases of tuberculosis investigated was seventy-one, and of these eleven patients (15.5 per cent.) had a well marked history of recent chronic dysentery. It is probable, says Gillitt, that dysentery was a predisposing factor in a larger proportion of the fatal cases, because the fact of there having been repeated attacks of dysentery would

not be noted in a necropsy report on a case of tuberculosis, unless the connection was very strong or unless one were specially looking out for such cases. The number of cases, too, in which tuberculosis is developed before admission to jail and in which a reliable history cannot be obtained is considerable.

38. Also published in the *Philippine Journal of Science*, July, 1910; abstracted in THE JOURNAL, Nov. 5, 1910, p. 1684.

Medical Press and Circular, London

December 28

43 Differential Diagnosis of Reno-Ureteral Affections. F. Cathelin.
44 The Change of Life in Man. B. Hollander.
45 Intracranial Neoplasms. Diagnosis and Indications for Treatment. T. A. Williams.

January 4

46 Roentgen Ray Diagnosis of Urinary Calculi. M. J. Hayes.
47 Points in Urine Analysis. J. B. Smith.
48 Partial Resection of Stomach for Carcinoma. R. A. Stoney.

Glasgow Medical Journal

January

49 *The Unfit. W. J. H. Sinclair.
50 Advances in Hematology. W. K. Hunter.
51 *Graduated Labor at Bellefield Sanatorium. J. W. Allan.

49. **The Unfit.**—The term unfit is used by Sinclair in a general way, and is intended to include the always tired, the loafer and unemployable, the feeble-minded, the epileptic, the criminal and the alcoholic. He does not deal with the physically unfit, or the certifiably insane. He shows that there is a large and increasing number of unfit people. The influence of those people while at large is hurtful to the community, leading to the production of undesirable stock and to large public expense. Legislation for the care and control of the unfit in their own interest and in the interest of the race is urgently called for. Sinclair suggests that the physically capable and non-criminal among the unfit would probably be suitably dealt with in farm and labor colonies. Notification and registration is probably necessary as a preliminary to the proper care and control of epileptics. Much attention should be bestowed on the health and training of epileptic children, when possible by parents, otherwise by the state. The marriage of an epileptic should be prohibited by law. Epileptics improperly cared for by their relatives should be put under care and treatment in epileptic colonies. The shutting up for the natural term of their lives of incorrigible and irresponsible inebriates is highly desirable in their own interests and in the interests of the community. A simple and easy method of finding the feeble-minded, such as notification, Sinclair regards as probably practicable. Legislation to facilitate certification and to provide for the continued confinement of the feeble-minded is urgently required.

51. **Graduated Labor at Bellefield Sanatorium.**—Experience at Bellefield Sanatorium, Lanark, has convinced Allan of the value of moderate and graduated labor in suitable cases. It improves the appetite, tones the muscles, and improves the breathing. In the case of workingmen, it renders them more fit to return to their vocations. Four months of good feeding and absolute idleness in a sanatorium is conducive to the formation of fat and lazy habits. Besides the physical benefits, there is the psychical benefit derived from work. It puts the patients in a better frame of mind when they find that they are able to do something, and it raises their spirits, for they know when they are put on work the medical officer is satisfied with their condition. But at the same time, Allan is distinctly of the opinion that the labor should be moderate in character, and that it should be voluntary on the part of the patient. No patient should be urged to work if he expresses a decided disinclination to do so. A contrary line of conduct may be attended with very awkward or very serious consequences.

Bulletin de l'Académie de Médecine, Paris

December 20, LXXIV, No. 41, pp. 475-504

52 *Chronic Carbon Monoxid Intoxication. (Intoxication oxycarbonée lente; ses symptomes frustes.) J. Courmont, Morel and G. Mouriquand.
53 Peruvian Verruga in Madagascar. M. Letulle.

January 3, LXXV, No. 1, pp. 1-28

54 Osteomalacia of Tuberculous Origin. (Tuberculose inflammatoire du squelette.) A. Poncet and R. Leriche.

52. **Slow Carbon-Monoxid Poisoning.**—Courmont, Morel and Mouriquand report the case-histories of thirty-five persons who for years during their working hours had to breathe air containing from 1 per 10,000 to 1,000 carbon monoxid. In the course of years they all developed nervous, digestive and general symptoms varying in intensity but most severe in the workrooms with the highest proportion of the impurity in the air. The syndrome was alike in each case, commencing with headache and occasional dizziness, then lassitude, loss of appetite, insomnia varied with nightmares followed, and neuralgias, intense or slight, transient or fixed, unilateral or bilateral, intercostal, subcostal, abdominal and especially in the lumbar and sacral region. The digestive disturbances were those characteristic of hyperchlorhydria. Twelve of the patients had intermittent albuminuria, three transient glycosuria and all grew thin and pale, some being so sallow as to suggest cancer. Some epileptics were among the patients and their previously rare seizures became so frequent that institutional measures were soon necessary. All the symptoms reached their acme in winter, when the defective furnaces and heaters were at work, but became attenuated during the spring and disappeared entirely during the summer vacation at first. In later years they became more continuous with lesser remissions. In three of the youngest patients the syndrome was diagnosed as pretuberculosis and they were sent out of town, returning much improved. In another case incipient tabes was diagnosed on account of the asthenia, and psychic and neuralgic disturbances. A few other patients presented signs of congestion in the bladder and prostate. Gautier also reported the case of a physician who paid no attention to a little gas escaping in his office for a few weeks, until he developed a condition of extreme weakness, neurasthenia, and "the blues" requiring a three-months vacation to regain his normal poise. Gautier himself had attacks of faintness at night for more than a month after exposure to carbon monoxid for a short time during an operation in the open air. The syncope was so severe each time that he felt he was dying, and his weakness was extreme. Carbon-monoxid poisoning may prove fatal after a long interval, as in Bourdon's case in which a sudden fatal syncope followed several weeks after the acute monoxid poisoning from which the man had apparently recovered. The speakers all emphasized the insidious danger from slightly defective hot-air radiators and gas jets, and the emanations from gas ranges, etc.

Obstétrique, Paris

December, N. S. III, No. 12, pp. 1001-1080

55 Hematology of Menstruation. (Les pigments utérins.) H. Keiffer.
56 Metabolism During Pregnancy. Hoffström.
57 *Non-Operative Treatment of Uterine Cancer. L. Mangiagalli.

57. **Non-Operative Treatment of Cancer of the Uterus.**—Mangiagalli discusses the experiences to date with drugs, ferments, vaccines and physical measures in treatment of cancer. He thinks that the meiostagmin reaction may prove a useful guide in estimating the effect of non-operative treatment and keeping control of recurrences. He is having this test applied in all cases of uterine cancer in his service before and after operation, and is collecting the data for comparison. Although he regards the knife as still the most certain means at our disposal, yet he thinks that the clinic can regard the future with more hope as already we possess means which in certain cases may arrest the progress of the cancer and permit radical operative measures later.

Presse Médicale, Paris

December 31, XVIII, No. 105, pp. 985-992

58 *Emergency Psychiatry. (La psychiatrie d'urgence.) E. Dupré.

58. **Emergency Psychiatry.**—Dupré is in charge of the detention hospital connected with the police department at Paris, and this is his opening address in the special course of lectures on mental disease given at this institution. Drink, he remarks, is the great purveyor for it—"drink, the international scourge but essentially the national scourge in France, whose ravages are constantly increasing." Especially frequent is

the acute mania liable to be induced in the predisposed by an ordinary drinking bout. He reviews the various features which distinguish the rapidly curable cases of mental trouble from those requiring institutional treatment. In the former case the insanity is secondary to infections, intoxications, physical or moral shocks. The resulting mental disturbances are usually of a confusional nature, comparatively transient, subordinate to the cause determining them and amenable to medical treatment outside of an insane asylum. Unfortunately, he adds, existing hospitals are seldom equipped to isolate and care for these somato-psychoses, as he calls them. On account of the prejudice against asylums and the stigma cast on any one who has been confined in an asylum, it is especially incumbent on physicians to perfect themselves in emergency psychiatry and learn to distinguish the patients who can be safely sent to a hospital, a hydrotherapeutic establishment or treated at home.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 10, XL, No. 35, pp. 1177-1208

59 *Camphorated Oil in Prophylaxis of Postoperative Peritonitis. K. Kolb.

December 20, No. 36, pp. 1209-1256

60 *Medical Borderland Experiences. (Erfahrungen der inneren Klinik auf einigen medizinischen Grenzgebieten.) D. Gerhardt.
61 *Epidemic Poliomyelitis in Switzerland. E. Hagenbach.
62 Anatomic Bases of Mental Diseases. (Gehirn und Psychose.) E. Fankhauser. Commenced in No. 35.

59. **Prophylaxis of Postoperative Peritonitis.**—Kolb pours 10 per cent. camphorated oil into the abdominal cavity up to an amount of 50 c.c. during and just before concluding the operation to ward off threatening peritonitis. In fifty-three laparotomies for very serious conditions, nine of the patients died but only one from peritonitis. The others succumbed to tuberculosis, air embolism or pneumonia. The oil did not prevent the development of abscesses in the soft parts but there were no signs of peritonitis in the abscess cases. He used the oil also in twenty-six other cases as a precautionary measure but does not include them in his figures as peritonitis would scarcely have developed in any event.

60. **Borderland Experiences.**—Among the cases reported by Gerhardt are seventy-four of gastric cancer. An operation was advised in thirty-one of the cases but was refused in four. One of the twenty-seven patients operated on was permanently cured thereby. In eight dubious cases the stomach was found free from any signs of a tumor, but the exploratory operation did no harm in any instance. In eighteen of the sixty-six cancer cases the first disturbances had been noted less than six weeks before, and in twelve cases the growth was already inoperable; two other patients refused an operation and in two other cases the laparotomy showed inoperable conditions. In nearly half of all the cases the condition was too far advanced for a radical operation although the cancer had caused no symptoms attracting attention until within less than three months. These experiences confirm the advisability of an exploratory laparotomy as early as possible when previously healthy elderly people develop gastric disturbance more or less rapidly. In seventeen recent dubious cases ten of the patients were examined by an exploratory laparotomy and cancer was found in about half and excluded in the others. In seven cases in which the operation showed the stomach to be free from cancer, there was no free hydrochloric acid or only traces in five of the patients, while fourteen of the cancer patients had normal proportions of hydrochloric acid. In two other cases without free hydrochloric acid the patients improved so much on an appropriate diet that they increased over seven pounds in weight in three or four weeks and the presumptive diagnosis of cancer was abandoned. The patients returned, however, four or five months later with inoperable carcinoma. These cases warn that cancer patients do not necessarily always lose in weight.

61. **Epidemic Poliomyelitis in Switzerland.**—Hagenbach has noticed that the cases now reported are mostly at points where one or more sporadic cases of acute poliomyelitis have been observed in previous years. In the last fifteen years he has had in his charge seventy-seven children with acute poliomyelitis, but never more than four in one year until 1900, when the number began to increase, and in the first eight months of 1910 he had thirteen cases. The type, too, seems to have changed; in the sporadic cases he never observed such pains in the legs as now, requiring sedatives, while the symptoms now deceptively resemble those of cerebrospinal meningitis. He has also noticed that cases of the latter are more numerous at points where poliomyelitis is prevalent. In many of his cases of the latter the paralysis came on gradually instead of with the sudden onset which has been described as characteristic. He thinks there can be no doubt that the disease is epidemic in Switzerland in three districts at least.

Deutsche medizinische Wochenschrift, Berlin

December 29, XXXVI, No. 52, pp. 2417-2448

63 *Ventral Hernia. (Darmwandbruch.) B. Riedel.
64 Vital Staining of Red Corpuscles. (Ueber die vitalfärbbare Granularsubstanz der roten Blutkörperchen, ihre Natur und Beziehungen zu ihrer sog. basophilen Punktierung.) R. Hertz.
65 *Action of Transfused Blood. (Wirkung intravaskulärer Injektionen frischen, defibrinierten Blutes und ihre Beziehungen zur Frage der Transfusion.) J. Moldovan.
66 Opsonic Technic. (Opsoninbestimmung.) H. Reiter.
67 Simple Medico-Mechanical Apparatus for the General Practitioner. A. Heermann.
68 *Technic for and Action of Salvarsan. P. Ehrlich.

63. **Ventral Hernia.**—Riedel is convinced that hernia into the abdominal wall occurs much more frequently than is generally supposed. It is difficult to diagnose when the rupture is at an unusual point but serious trouble is liable to follow unless the anomaly is corrected at once by an operation. Attempts at forcible reduction are entirely contraindicated. The rupture into the strata of the abdominal wall may involve only the outer side wall of the intestine or both walls and even some of its mesentery. In his experience at Jena there were sixty-three ruptures of this kind among the 550 cases of incarcerated hernia since 1883, that is, 11.5 per cent. of the total hernia material. The slightest sign of a tumor below or above Poupart's ligament should suggest hernia into the abdominal wall if accompanied by symptoms on the part of the intestines. In two cases described, the rupture was not recognized and the patients succumbed to gangrene of the incarcerated wisp of the intestine. Riedel insists that a patient with abdominal trouble should not be examined in bed but must be placed on a table with only a single garment, for the examination. This is the only means to detect a minute hernia in the abdominal wall near the femoral or inguinal canal.

65. **Transfusion of Blood.**—Moldovan found with animals that intravenous injection of fresh defibrinated blood has a toxic and possibly a fatal action on account of the coagulation of the blood of the recipient which it induces. This coagulating property subsides and disappears by the end of about half an hour. Waiting until after this period obviated all danger from this cause in his experiments. He warns therefore, that transfusion of defibrinated homologous blood within half an hour after it has been drawn must be regarded as a dangerous procedure judging from the results on animals.

68. **Salvarsan.**—Ehrlich discusses the technic and various mishaps that have been reported following the use of salvarsan. Only one of the five deaths he mentions does he ascribe to the action of the salvarsan injected. He prefers the intravenous technic, which he considers harmless when correctly done; with skill and cleanliness, he says, even the general practitioner can use it. He reiterates that salvarsan is contraindicated in all cases of extensive disease of the central nervous system and with failing compensation in heart and vascular disease. The greatest attention should be paid to recent syphilis not older than from two to eight months. The salvarsan should be given energetically and the patient kept under continuous careful supervision, in order to combat the army of spirochetes with success. If this cannot be done with energy and under careful control, he says, it is better not to give the salvarsan. In the tertiary stage of the disease, when the spirochetes are not so numerous and local action is not so essential, such intensity of the treatment and strict control of the patients are not imperative. He adds that the curative action of salvarsan has been established, not only in syphilis but in tertian malaria, sleeping sickness, small-pox, spirillosis in animals, kala-azar, etc.

Deutsche Zeitschrift für Chirurgie, Leipsic

November, CVII, Nos. 4-6, pp. 297-620

69 Diagnosis and Treatment of Fracture of Bones in Hand. J. Fessler.
70 *Operative Treatment of Carcinoma of the Cardia. H. H. Janeway and N. W. Green (New York).
71 Ossifying Myositis After Trauma, Fractures and Arthropathies. P. Ewald.
72 *Changes in Blood Under Influence of the Thyroid and of Thyroid Treatment. (Blutveränderungen unter dem Einfluss der Schilddrüse und Schilddrüsensubstanz.) M. Turin.
73 *Spinal Anesthesia and Blood-Pressure. (Lumbalanästhesie und Blutdruck mit besonderer Berücksichtigung des Zusatzes von Nebennierenpräparaten zum Anästhetikum.) M. zur Verth.
74 Improved Automatic Closure of Tips of Forceps, etc. (Automatische und graduelle Festklemmung der Spitzen bei hämostatischen Zangen, Histotritoren, Darmkompressoren und-Okklusoren.) A. Marro.
75 Hernia of Stomach into Omentum. (Hernia ventriculi epiploica und ihre Mechanik.) M. v. Arx.
76 *Sarcoma Under Nail of Toe. (Zur Kasuistik der subungualen Zehensarkome.) G. G. Wurmbrand.
77 *Prevention and Treatment of Fat Embolism. E. Fritsche.
78 *Laryngocele. (Kehlsackbildung beim Menschen.) R. v. Hippel.
79 Epinephrin-Anemia for Operations on Skull and Spine. H. Braun.
80 Resection of the Carpus. L. Heidenhain.
81 *Operative Treatment of Typhoid Bacillus-Carriers. A. Fromme.
82 Invagination of the Intestine in Ileocecal Region. S. Solieri.
83 Retrograde Incarceration. O. Klauber.

70. This article appeared in *Annals of Surgery*, June, 1910, and was abstracted in THE JOURNAL, July 30, 1910, page 435.

72. **Thyroid Functioning and the Blood.**—This communication issues from the clinic at Berne in charge of Kocher; it reports research in this line which seems to show that the changes in the blood with exophthalmic goiter are the result of the abnormally large amounts of thyroid secretion which are produced. The myeloid system is not influenced but the lymphoid system reacts positively to the action of the hyperfunctioning of the thyroid on the blood-producing organs. The conditions in normal persons, in patients with exophthalmic goiter and in these or others before or during thyroid treatment are compared and ten pages are devoted to tabulation of the details. Ordinary colloid struma does not seem to affect the composition of the blood, but thyroid treatment brings about a condition similar to the characteristic blood-picture of exophthalmic goiter, namely, pronounced lymphocytosis and leukopenia, which is unquestionably due to the reaction of the blood-producing organs to the excessive thyroid secretion.

73. **Technic for Spinal Anesthesia.**—In this report from Bier's clinic at Berlin, zur Verth emphasizes the necessity for restricting the analgesia to the point where it is needed. When this is done, operations up to the level of the crest of the ilium can be done without any drop in blood-pressure and can thus be regarded as safe. No by-effects are observed, he states, when the analgesia is restricted to this region. In passing judgment on lumbar anesthesia, he says that we must discriminate between the effects of the analgesia in this region and the effects of the anesthetic forced up higher than is necessary. The by-effects increase in number and severity the higher the analgesia is induced. The aim should be to find an anesthetic or combination which will leave the heart-pressure uninfluenced even with high analgesia. Until this ideal is realized, it is wiser to keep the blood-pressure at its normal figure, with drugs to act on the heart, when high spinal anesthesia is attempted. Bier has been having the blood-pressure studied during the last six years and zur Verth gives his experiences with forty-four patients anesthetized by the spinal technic with or without epinephrin. A drop in blood-pressure of more than 25 per cent. was observed in eighteen cases, but the operation had been high in the rectum or on the kidney or bladder in all of these, and thus above the level of the absolutely "safe" region. The addition of a suprarenal preparation did not seem to have any influence in preventing the drop in blood-pressure, while it reduced the extent of the analgesia but seemed to prolong it. A few whiffs of ether augment the force of the heart without acting on the vessels. Epinephrin, on the other hand, acts on the tonus of the vessels; this raises the blood-pressure if the heart is working as usual, but the epinephrin acts also on the heart, reducing its energy. As the blood-vessels are contracted at the same time, the result is naturally more in the line of a collapse of the whole cardiovascular system than in the line of stimulation. That the collapse does not occur as a rule is due to the special counteracting influence of some component of the suprarenal preparation acting directly on the heart functioning.

76. **Sarcoma on the Toe.**—Wurmbrand reviews the cases on record in which an ingrowing nail or nevus has been the seat of cancerous growth and reports three cases from Hochenegg's clinic at Vienna. The patients were two men of 47 and 50 and a woman of 59, with sarcoma in the left great toe; there was a history of slight trauma in one case. In a fourth case the right great toe had been enucleated for melanosarcoma ten years before inoperable metastasis was discovered in the right calf. The affection was of slow development, several years elapsing before the pains became severe and secreting granulations developed under the nail. In all the cases months had been wasted with ordinary medical measures, inducing temporary improvement, the trouble flaring up again after a few months.

77. **Fat Embolism.**—Fritzsche has been studying the mechanism of fat embolism on rabbits and dogs, and states that cutting injuries of bones are liable to lead to fat embolism, the veins in the bones taking up the particles of fat. He found, however, that mere concussion of the bone was sufficient in some cases to induce fat embolism by the lymphatic route, the lymphatics taking up the fat particles and thus passing them along into the circulation. In these cases of lymphatic fat embolism he found that prompt drainage of the thoracic duct warded off danger when the operation was done at the first signs of fat embolism. The procedure is simple and harmless, he says, but its field of application is necessarily limited.

78. **Laryngocele.**—Hippel devotes nearly a hundred pages to this rare anomaly, his attention having been called to it by a case personally observed.

81. **Surgical Treatment of Typhoid Bacillus-Carriers.**—Fromme reviews the experiences that have been published in this line to date and reports cases in which he operated to put an end to the chronic elimination of typhoid bacilli, accomplishing his purpose in each case by cholecystectomy. The patients were four women between 38 and 46 years old, and the biliary passages were found to harbor typhoid bacilli as well as the gall-bladder. After the removal of the latter the typhoid bacilli were evidently exterminated by other saprophytic bacteria. He urges surgeons in operating on the biliary apparatus to search for possible typhoid bacilli, as undoubtedly the number of unsuspected bacillus-carriers is large. Fromme believes that many healthy bacillus-carriers might consent to operative treatment if convinced of the peril to their environment and to themselves.

Medizinische Klinik, Berlin

December 25, VI, No. 52, pp. 2045-2064 and Supplement

84 *Gonorrheal Rheumatism. (Tripperrheumatismus.) G. Hahn.
85 *Early Signs of Epilepsy in Children. (Kinderfehler in Schule und Haus als Frühzeichen der konstitutionellen Epilepsie.) H. Stadelmann.
86 Tuberculosis as Indication for Arresting Pregnancy. (Zur künstlichen Unterbrechung der Schwangerschaft bei Tuberkulose.) H. Hellendall.
87 *Differential Diagnosis Between Deafmutism and Mutism from Deafness. (Taubstummheit und Hörstummheit.) E. Fröschels.
88 Percutaneous Technic for Salvarsan. H. Leyden.
89 *The Development of the Rachitis Problem in the Last Decade. F. Zybell.

84. **Gonorrheal Rheumatism.**—Hahn remarks that the lack of benefit from salicylic medication is one of the chief means of distinguishing the gonorrheal form of joint affections. Treatment generally has to be merely symptomatic but vaccine therapy may prove to have a causal action; the experiences to date seem to be promising. The gonococcus seems to have a special predilection for the periosteum and to stimulate an exuberant granulation. Especially threatening are the cases in which the swollen joint looks angry and pains and fever announce the onset of suppuration. Pyemia and death often close the scene unless operative measures are applied in time; even in the more favorable cases, the joint is liable to be left stiff. Pericardial and pleural complications are fortunately rare, as also phlebitis; endocarditis is more common. The prognosis is grave in gonorrheal endocarditis. Complications in the conjunctiva and iritic processes have

also been observed in a few cases. Hahn advocates treatment of coexisting gonorrheal urethritis as under other conditions. Rest of the joint and local application of heat for several hours a day are the main reliance.

85. **Early Signs of Epilepsy in Children.**—Stadelmann refers in particular to the naughtiness, the moodiness and brutality shown by certain children who develop epilepsy later; he regards this abnormal behavior as an early manifestation of epilepsy. Another sign is attacks of excitement at times, the child speaking hurriedly, the syllables tripping over each other, sometimes actual stuttering; or the defect may manifest itself in apathy. Disturbances in coordination in children, an impulse to keep the arms, hands or legs in motion, are defects observed in those inclined to epilepsy. Parents and teachers notice these defects before the physician sees the child, and they should be warned to be on the lookout for them as signs of a tendency to possible epilepsy. The earlier medical care can be given the child the better the outcome, the prognosis being much more favorable before the seizures are once installed. If the previous history of the child is taken into account, whether it had convulsions or diarrhea in infancy, etc., the early diagnosis may be facilitated. In the parents or brothers and sisters signs of epilepsy may also be detected, such as gastro-intestinal disturbances without preceding errors in diet, recurring manifestations suggesting geographic tongue, and also the tendency to brutality and cynicism, lack of affection and selfishness. Epilepsy must be regarded as a constitutional disease which induces a train of various symptoms; the seizure is merely the most striking and violent symptom in the train. Suspicion of epilepsy compels institutional treatment, he insists; there is no chance for a successful outcome unless the child can be kept under constant medical care and pedagogic training. Many children thus predisposed to epilepsy never develop seizures and seem to live an apparently normal life. But the tendency to epilepsy persists and in later years the individual is liable to come into conflict with the law.

87. **Differentiation of Mutism.**—Fröschels has found that deaf-mutes do not seem to feel anything tickling the inside of their outer ear while children with a normal hearing apparatus feel the tickling at this point with exceptional intensity. He introduces a bougie into the ear and twists it to and fro and found that this was borne without a trace of shrinking by ninety-four children in a deaf-mute asylum although all were extremely ticklish elsewhere. On the other hand, he found that fifty normal children tested felt the tickling with special intensity; most of them otherwise were not especially ticklish. This test is proving useful, he states, for differentiating actual deaf-mutism from mutism due to other causes, with or without hearing. Treatment based on the findings has given good results in twelve children, idiots and others, supposed to be deaf-mutes as they did not speak but who proved able to speak when trained.

89. **Rachitis.**—Zybell concludes his review of what has been learned and accomplished in respect to rachitis since 1900, with the statement that organotherapy has not displayed any specific action on rachitis, the results being more a general stimulating effect, due mostly to the hygienic measures instituted along with it. Phosphorus is the main reliance, and recent research has supplied the scientific basis for the empirical observation of the benefit from the action of phosphorus on the mineral metabolism, especially on prevention of waste of lime. It displays the greatest power in this line paired with cod-liver oil; neither alone and none of the derivates of phosphorus has the same effect. His formula is 0.01 c.c. yellow phosphorus with cod-liver oil to 100 c.c.; the dose is 5 c.c. two or three times a day. The compound should be made up fresh every week or ten days.

Münchener medizinische Wochenschrift

December 20, LVII, No. 51, pp. 2673-2756

90 *Action of Salvarsan on the Eye. (Experimentelle und klinische Untersuchungen mit Salvarsan unter bes. Berück. der Wirkung am Auge.) J. Igersheimer.
91 By-Effects of Salvarsan. K. Bohac and P. Sobotka.
92 Regeneration of Bone After Injection of Salvarsan. Therstappen.
93 Experimental Research on Epidemic Poliomyelitis. P. H. Römer and K. Joseph
94 Pupil Disturbances in Dementia Præcox. O. Bumke.
95 *Mechanical Measures for Arresting Hemorrhage from Stomach or Intestines. (Zur Stillung gefährlichen Magen- und Darmblutungen.) G. Kelling.
96 Enlarged Lymph Glands Not Always Sign of Tuberculosis. (Verwertbarkeit der subkutanen Thoraxlymphdrüsen für die Diagnose der Lungentuberkulose.) W. Schulze.
97 Action and Dosage of Epinephrin in Subcutaneous Injection. Kirchheim.
98 Hyoscyamus Poisoning in 1649. (Geschichtlicher Beitrag zur Vergiftung mit Bilsenkraut.) H. Schulz.
99 Nature and Importance of Anaphylaxis. E. Friedberger. Commenced in No. 50.

December 27, No. 52, pp. 2757-2780

100 *Serotherapy of Pregnancy Disturbances. (Versuch, Schwangerschaftstoxikosen durch Einspritzungen von Schwangerschaftsserum zu heilen.) A. Mayer and P. Linser.
101 *Action of External Application of Cold on Temperature of the Stomach. (Absinken der Kern—speziell der Magen—temperatur bei äusserlicher Kälteapplikation.) M. Riehl.
102 *Dysentery Epidemic in a Hospital. (Ueber eine Flexnerdysenterieepidemie in einem Spitale, bei welcher die Uebertragung der Keime von der Spitalsküche mittels der Essgeschirre erfolgte.) B. Bussow.
103 Technic and Contra-Indications for Administration of Salvarsan. W. Gennerich.
104 Salvarsan in Syphilis. C. Ravasini.
105 *Massage of the Nerves at Their Emerging Points. (Nervenpunktlehre und Nervenpunktmassage nach Cornelius.) A. Schüle.
106 *Local Action of Salvarsan at Point of Injection. K. Martius. Commenced in No. 51.

90. **Action of Salvarsan on the Eye.**—Igersheimer asserts that salvarsan not only has no injurious action on the eye, but in many cases in his experience had a curative effect on existing syphilitic eye affections. His experiments on animals show, he asserts, that the injurious action of atoxyl on the optic nerve is the result of phenylarsenate, and that cats and dogs are peculiarly sensitive to it. Salvarsan does not seem to contain phenylarsenate derivates and no symptoms suggesting toxic action from their presence could be detected in any of the animals tested. In the animals an accumulation of the arsenic was found in the eyeball, in one up to forty-eight hours after the last injection, but there was no Marchi reaction in the optic nerve. This demonstrates, he declares, that an organic arsenic is not split off from salvarsan, but at the same time it suggests the necessity for caution in chronic administration of the drug. There was no tendency to hemorrhage in the kidneys in the animals treated with salvarsan; this is the specific sign of atoxyl poisoning.

95. **Mechanical Measures for Arrest of Gastro-Intestinal Hemorrhages.**—Kelling was able to palpate a knobby growth in the stomach in a woman of 40 with hematemesis. It was more than probable that the bleeding issued from this ulcer and he applied mechanical compression to the spot, first with his hand and then under a tourniquet. He kept up this compression for eight hours, giving a little morphin besides. There was no recurrence of the hemorrhage. He improvises a tourniquet for such cases by laying a small tray on a pad and fastening the tray and pad with one or two towels drawn tight and fastened behind. This compression can be applied even when nothing pathologic can be palpated. The pylorus can be easily reached in this way, but the cardia requires different measures, and he suggests for this passing a tube through the nose into the stomach. A rubber cot fastened on the lower end of the tube can then be inflated and drawn back to plug the opening at the cardia. With the filling of the cavity between the cardia and the pylorus, he thinks that the hemorrhage would certainly stop. This measure might be recommended when the patient has to be taken to a hospital before operative treatment is possible. He thinks this procedure would amply suffice to arrest hemorrhage from venous congestion in this region, such as accompanies cirrhosis of the liver. These hemorrhages left to themselves are unusually dangerous; they are easily recognized by the copious vomiting of the venous blood with the liver large and hard. He seeks to promote coagulation of the blood by giving the patients pulverized chalk stirred into milk, supplemented by an intravenous injection of 5 c.c. of a 5 per cent. salt solution. He refrains from subcutaneous injection of physiologic salt solution so long as the hemorrhage persists, and combats the thirst with narcotics. Later water can be given by the rectum in small amounts, care being exercised not to increase the blood-pressure thereby. He makes a rule of giving small nutrient enemas of raw milk with nothing by the mouth for two or three days. Epinephrin by the mouth does little good

as its action is purely local and the spurting blood washes it away from the spot. Still another measure that might be applied to gastric or intestinal hemorrhage is inflation of the lower bowel by a tube introduced far up in the rectum; with a double bulb it is possible to inflate the transverse colon and thus exert pressure on the stomach and duodenum. Compression from this procedure is particularly effectual during pregnancy, the colon then lying in front of the stomach. The dilated colon prevents further entrance of blood into the stomach and its escape into the duodenum. In the three cases in which he has applied this technic the hemorrhage was arrested at once; in all the cases the stomach was above the umbilicus. In three other cases he injected oxygen into the abdomen through a trocar and the hemorrhage was arrested, as also the recurring hemorrhages in a cancer case. The necropsy findings in several cases confirm the benefit induced by compression by this means.

100. **Serotherapy of Pregnancy Disturbances.**—Mayer and Linser report the case of a woman with recurring pregnancy herpes; the entire body was covered with the eruption, and the bed linen was covered with pus. The pain was severe and the urine showed tube-casts and albumin. After failure of all other measures, at the end of two weeks, 10 c.c. of serum from another woman were injected to test the tolerance for normal human serum; three days later, 10 c.c. from a healthy pregnant woman at the eighth month, and three days later 20 c.c. from another healthy pregnant woman. The injections were made into a vein; the temperature began to subside after the second injection and became normal after the third. The influence on the eruption was equally striking; the pustules drying up and no new ones forming. The pregnancy at the fifth month was not disturbed. Five weeks later the same eruption recurred, but less pronounced and it subsided at once after injection of 20 c.c. of serum from a pregnant woman. The child was born normally at term. The tracing given shows the change for the better after the first injection of the serum from another pregnant woman. The results in this case, he declares, justify further experiences in this line of serotherapy of the dermatoses of pregnancy and possibly of all the toxicoses of pregnancy, eclampsia, pernicious vomiting, albuminuria, etc. This harmless and simple method may cure or at least improve, and he urges others with more extensive material to give it a thorough trial.

101. **Reduction of Internal Temperature After External Application of Cold.**—Riehl inserted a narrow thermometer into the lower end of a stomach tube, only the end projecting. By this means he was able to determine the temperature in the interior of the stomach before and after application of cold outside. He found that the temperature could be thus reduced by 1.8 degrees C. in the stomach and 1.1 degrees C. in the rectum. This reduction of nearly 2 degrees C. in the interior of the body may prove of life-saving value, he declares, in cases of gastric hemorrhage, the cold having a coagulating action on the blood, supplemented by the effect of the expulsion of blood from the region and the reflex action on the vasoconstrictor nerves.

102. **Dysentery Epidemic in a Hospital.**—The epidemic in the case described was traced to the dishes sent out from the central kitchen. The contagious ward had its own equipment for washing the dishes before they were returned to the central kitchen, but this was shown to be inadequate. Contagious wards should have each their own separate kitchen, with no communication of dishes between the contagious ward and the other services.

105. **Nerve Massage.**—Cornelius is in charge of the nerve massage policlinic connected with the Berlin Charité. The patients are given a thorough examination to exclude organic disease; if none is found, careful search is made for tender points anywhere in the body and these are frequently found at the points where the nerves emerge from the bone. Here Cornelius applies massage, and he has been able by this means to cure rebellious cases of migraine, traumatic neuroses, ptyalism, hypersecretion, writer's cramp, chronic sciatica and the diffuse pains of the hysteric and neurasthenic. He explains the benefit as a stimulating to normal functioning of some morbid point in the nervous system which is sending out constant pathologic irritation, the nerves thus never having a chance to rest. The morbid point is found where light pressure is able to elicit a morbidly exaggerated response, that is, more or less pain. Schüle has been studying the method with Cornelius and has seen many patients cured whose nervous ills had resisted all other measures.

106. **Local Destructive Action of Salvarsan.**—Martius reports a case in which death followed five hours after intravenous injection of 0.5 c.c. of salvarsan in a man of 39 with apparently well compensated heart disease. No thrombosis was found in this case but the kidneys showed acute necrosis of the epithelium of the convoluted tubules. He found extensive necrosis at the point of every subcutaneous or intramuscular injection of salvarsan; all the tissues in contact with the drug were totally necrotic. This necrosis involving the nerves in the region explains the neuritic phenomena repeatedly observed after the injection. Owing to the rapid decomposition of the drug, it is a question whether there may not be absorption of injurious arsenic derivatives although such absorption is hindered by the necrosis in the region. The results are liable to be very serious when infection complicates the necrosis. In one such case in his experience, there was thrombosis of the iliac vein and fatal pulmonary embolism. In one of his cases the necrosis in the gluteal muscles shows no tendency to heal although three months have elapsed. In two cases the necrotic mass had to be excised. The extension of the direct local toxic action of the drug to the sciatic nerve and sympathetic plexus explains the bladder and rectum disturbances observed in some clinics.

Therapie der Gegenwart, Berlin

December, LI, No. 12, pp. 529-576

107 Present Status of Radium Emanations in Therapeutics. F. Gudzent.

108 *Operative and Specific Treatment of Kidney and Bladder Tuberculosis. (Nieren- und Blasentuberkulose.) H. Kümmell.

108. **Tuberculosis of the Urinary Apparatus.**—Kümmell reviews his extensive experience with tuberculous kidney and bladder disease, emphasizing the insidious nature of the onset. Many of his patients had been long under treatment for supposed gynecologic or gonorrheal affections. He is convinced that gonorrhea in both sexes affords a predisposition to tuberculosis of the urinary apparatus. A number of his patients had been treated for bladder disturbances alone, the physician not thinking of examining for the causal kidney tuberculosis. The coincidence of gonorrhea and kidney tuberculosis is often misleading. He has performed 125 operations for kidney tuberculosis and states that of the eighty-four patients who survived the first six months, nine died within four years, two within thirteen years, for three the interval is not known, while four have been lost to sight. The sixty-six others are in good health to date, three of the patients having passed through a normal pregnancy since. His own experiences and those he finds recorded in the literature fail, he says, to show any curative action on kidney tuberculosis from tuberculin treatment.

Wiener klinische Wochenschrift, Vienna

December 22, XXIII, No. 51, pp. 1831-1870

109 *Functional Tests of the Autonomic Nervous System in Mental Disease. O. Pötzl, H. Eppinger and L. Hess.

110 *Diagnosis of Disease of Blood-Producing Organs by Exploratory Puncture of the Bone Marrow. G. Ghedini.

111 Serodiagnosis of Syphilis. (Auswertung luetischer Sera auf die Intensität ihrer komplementbindenden Eigenschaft gegen alkoholischen Herzextrakt.) E. Epstein.

112 Röntgen-Ray Findings with Obesity Heart. (Typischer Röntgenbefund am Herzen Fettleibiger und dessen anatomische Grundlage.) G. Schwarz.

December 29, No. 52, pp. 1871-1894

113 Cretinism Among the Jews. (Kretinismus unter den Juden.) A. Flinker.

114 *Prophylaxis of Scarlet Fever. (Scharlach und dessen Weiterverbreitung.) H. Kokall.

115 Suppuration After Contusion of the Kidney. (Beitrag zu den Eiterungen nach subkutanen Nierenverletzungen.) J. R. v. Winiwarter.

116 Diagnosis of Duodenal Ulcer. M. Gross (New York).

117 Disturbances in Hearing After Salvarsan. (Zur Frage der Erkrankung des Gehörapparates nach Behandlung mit Arsenobenzol.) O. Beck.

109. **Functional Tests of the Sympathetic Nervous System in Mental Disease.**—The research described was undertaken to decide whether the action of elective drugs became altered in

the course of certain psychoses. Over a hundred patients were thus examined, the results of the tests showing that the autonomic nervous system shares in the depression in melancholia and also in the abnormal excitability in mania.

110. **Exploratory Puncture of the Bone Marrow.**—Ghedini's further experience has confirmed his previous statements in regard to the diagnostic importance of exploratory puncture of the bone-marrow during life. He describes ten cases in detail. His findings show that severe disease of the blood-producing organs may exist without corresponding changes in the blood, either at the time or following them. In many cases disease of the bone marrow evidently runs its course unsuspected. In one case the general health has remained good and the blood-picture is approximately normal, although the bone marrow shows pronounced myeladenoid transformation and the liver and spleen are evidently infiltrated with myeladenoid elements. Notwithstanding these changes in the marrow, its function of producing red corpuscles seems to be scarcely impaired. Systematic application of exploratory puncture of the bone marrow on an extensive scale will certainly throw light on a number of affections, including malignant growths. The exploratory puncture, he says, is very easily done and is harmless.

114. **Spread of Scarlet Fever.**—Kokall states that in the last twenty-eight years 4,251 cases of scarlet fever have been reported at Brünn. His study of the mode of dissemination of the disease gives discouraging results, as the sterilization of the premises and measures to prevent infection of others failed in so many cases. It is evident, he thinks, that the virus is transmitted not only in the period of incubation but long after recovery far beyond the routine six weeks. The aim should be, he thinks, to remove the virus from the mouth by mechanical means. In a series of twenty families, fifty-eight cases of scarlet fever developed. In some instances the second case followed after an interval of fifty-seven days, when the child first affected returned from the hospital, notwithstanding all precautions.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVII, No. 2, pp. 267-601. Last indexed Nov. 12, 1910, p. 1771

118 Cicatrization of Perineal Tears. (Lässt sich Küstners Lehre von der Entstehung asymmetrischer Dammrissnarben auch durch histologische Untersuchungen stützen?) R. Stern.
119 Improved Technic for Abdominal Fixation of Uterus in Serious Displacement or Total Prolapse. (Abdominale Exohysteropexie bei schweren Lagefehlern und totalem Prolaps des Uterus.) S. Solieri.
120 Abnormally Prolonged Pregnancy. (Klinische und forensische Studie über verlängerte Schwangerschaft.) M. Ciulla.
121 Combined Version and Elastic Bag in Treatment of Placenta Prævia. (Erfolge der Behandlung der Placenta prævia bei der kombinierten Wendung und bei der Metreuryse.) Weischer.
122 Cholesteatoma in Ovary. W. Piltz.
123 Plastic Utilization of Uterus with Rectocele. A. Kraatz.
124 Leiomyoma of Uterine Cervix; Four Cases. (Leiomyome der Muttermundslippe.) K. Kolb.
125 Pathology of the Uterus. O. Polano.
126 *Tardy Hemorrhage in the Puerperium. (Spätblutungen im Wochenbett.) H. Küster.
127 Cancer of the Cervix Complicating Pregnancy and Delivery. (Komplikation der Schwangerschaft und Geburt mit Collumkrebs.) W. Beckmann.
128 Improved Technic for Laparotomy. (Zur Methodik der Köliotomie.) Harte and M. Hofmeier.

126. **Tardy Hemorrhages in the Puerperium.**—Küster announces on the basis of two cases from his experience that hemorrhage can occur from thrombi in the uterus a week after it has been completely emptied. Macroscopically, the thrombi cannot be distinguished from placenta and membrane scraps, but the microscope will reveal their true nature and microscopic examination should never be omitted in forensic cases. In prevention of hemorrhage after the first week of the puerperium, patients who have had any disturbances in the days immediately following delivery should be watched with special care. In his first case the hemorrhage came on the fourteenth day. The woman had had severe hemorrhage from atony at the birth of her last child. The clot found in the uterus resembled a bunch of tissue measuring 4 by nearly 3 cm. but proved to be nothing but a thrombus. The woman recovered under the usual measures. The puerperium had been otherwise normal, as also in the other case except for placenta marginata and considerable hemorrhage during Credé expression which had been required in both cases.

Zeitschrift für klinische Medizin, Berlin

LXXI, Nos. 3-6, pp. 165-478. Last indexed Oct. 1, 1910, p. 1239

129 Experimental Coma Induced by Sodium Oxybutyrate. (Wirkung des buttersauren Natriums auf den Organismus junger hungernder Hunde.) A. Marx.
130 Pathology of Paroxysmal Hemoglobinuria. L. Fejes and J. Kentzler.
131 Reliability of Threshold Percussion of Stomach. (Perkussion des Magens.) N. Roth.
132 Tuberculin Anaphylaxis. (Zur Frage der Tuberkulin-Anaphylaxie.) G. Kiralyfi.
133 Coagulation-Promoting Action of Rabbit Serum and Organ Extracts in Acquired Hemophilia. M. Vogel.
134 *Elimination of Drugs by Diseased Lungs. F. Falk.
135 The Urine in Pregnancy. (Ueber Ammoniak-, Aminosäuren- und Peptid-Stickstoff im Harn Gravider.) F. Falk and O. Hesky.
136 Recovery from Primary Pernicious Anemia. (Von dem weiteren Schicksal einer vor 13 Jahren geheilten perniziösen Anämie.) G. v. Dieballa.
137 Subsidence of Pernicious Anemia After Onset of Tuberculosis. G. v. Dieballa.
138 Bacteriologic Findings in Epidemic Cerebrospinal Meningitis. J. Lehmacher.
139 Influence of Radium Emanations on Purin Metabolism. (Einfluss der Radiumemanation auf den Purinstoffwechsel.) F. Gudzent and Loewenthal.
140 Influence of Radium Emanations on Gouty Tophi. (Einfluss der Radiumemanation auf Mononatriumurat im tierischen Organismus.) L. Fofanow.
141 Varying Content of Atmosphere in Radium Emanations in Relation to Biologic Processes. (Beitrag zur Erklärung klimatischer Einflüsse auf biologische Vorgänge.) P. L. E. Grabley.
142 Influence of Thyroid on Coagulation of Blood. (Zur physiologie und Pathologie der Schilddrüse.) K. Kottmann and A. Lidsky.
143 The Fibrin Content of the Blood in Connection with Thyroid Functioning. K. Kottmann.
144 The Thyroid and Autolysis. K. Kottmann.
145 *Measurement of Horse Power of Pulse: Energometry. (Neue Wege der Pulsdiagnostik.) T. Christen.
146 Diagnosis and Treatment of Pericarditis with Effusion, and Adhesive Pericarditis. K. F. Wenckebach.
147 Frictional Resistance of Blood. (Reibungswiderstand des Blutes und Poiseuillesches Gesetz.) W. Hess.
148 Case of Leukanemia. E. Magnus-Alsleben.
149 Experimental Metaplasia of the Spleen. (Zur Frage der experimentellen myeloischen Milz-Metaplasie.) R. Hertz.
150 Local Disturbances in the Circulation with Exercise of a Limb. (Lokale Kreislaufsveränderungen bei aktiven Bewegungen einer Extremität.) S. Saski.
151 Schönlein's Pioneer Work in Diagnosis. (Joh. Lucas Schönleins Verdienste um die diagnostische Technik.) E. Ebstein.

134. **Elimination of Various Substances by Diseased Lungs.**—Falk experimented with various drugs, his results confirming the assertion that salicylic acid does pass into the diseased lung and is thus eliminated by the respiratory passages; antipyrin also passes into the sputum in the same way but in far smaller proportions. Other drugs tested were not refound in the sputum at all, not even guaiacol. Thus there is no ground, he declares, for assuming any special local action on the diseased lung from administration of guaiacol, the terpene preparations, etc. At the same time he reports research which has demonstrated that intake of salt, increasing the salt content of the blood, is followed by an increase in the proportion of salt in the sputum and by an increase in the amount of the sputum. On a salt-poor diet the salt content of the sputum is reduced and the total amount drops to a third of the former quantity.

145. **The Energy of the Pulse in Horse-Power.**—Christen has applied to the study of the pulse the mechanical principle of measurement of energy by horse-power. As the heart action is such a small fraction of the accepted horse-power unit, he uses as the unit the force required to raise 1 gm. to a height of 1 cm. in 1 second. He applies the cuff to the largest part of the calf. The cuff is inflated by a hermetically connected and closed graduated syringe, and the manometer used is of the most sensitive type, working with the least possible friction and inertia. He calls the combined apparatus the energometer, and adds that the findings are not only the record of the mechanical energy of the pulse wave but that a new kind of curve results which throws light on certain elements of the pulse, especially what he calls the stasis curve (*Stauungskurve*), which is a mathematically exactly defined curve as he explains in detail. The resulting tracings record six properties of the pulse, five of which, he states, are entirely new and open new horizons for clinical research.

Zentralblatt für Chirurgie, Leipsic

December 24, XXXVII, No. 52, pp. 1633-1656

152 Lever Apparatus for Reduction of Fractures. (Hebelapparat zur Beseitigung der Dislocatio ad latus bei Knochenbrüchen.) M. Kirschner.
153 Rib for Plastic Operation on the Chin. (Kinnbildung bei Mikrognathie.) P. Esau.

Zentralblatt für Gynäkologie, Leipsic

December 24, XXXIV, No. 52, pp. 1673-1704

154 Necessity for Anaerobic Cultures in Obstetrics and Gynecology. (Notwendigkeit des anaeroben Kulturverfahrens in Geburtshilfe und Gynäkologie.) A. Hamm.
155 *Vaginal Cesarean Section in Eclampsia. O. Goldberg.

155. **Vaginal Cesarean Section in Eclampsia.**—Goldberg reports three cases of eclampsia in which the convulsions were promptly arrested by vaginal Cesarean section. One patient had had eclampsia at a preceding childbirth, the convulsions ceasing then also immediately after delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 13, XXXI, No. 149, pp. 1577-1584

156 Urethroscopy in Diagnosis and Direct Treatment of Chronic Urethritis. Commenced in No. 153. F. Cuturi.

December 20, No. 152, pp. 1609-1616

157 Glycosuria and Diabetes. G. A. Pari.

December 22, No. 153, pp. 1617-1624

158 Roentgen-Ray Treatment in Internal Medicine. G. Lucibelli.

Policlinico, Rome

December, XVII, Medical Section No. 12, pp. 525-568

159 Origin of Tube-Casts. I. G. Roseo.
160 Mechanism of Epinephrin Vasoconstriction. G. Cardone.

Norsk Magazin for Lægevidenskaben, Christiania

January, LXXII, No. 1, pp. 1-176 and Supplement

161 Salvarsan in Syphilis. C. Boeck.
162 Syphilis in Animals. (Dyresyfilis.) R. Krefting.
163 *Oxyuris as Cause of Ileus. J. Roll.
164 *The Use of Sulphuric Acid in Industrial Preparations of Food. (Om anvendelsen av svovelsyrling i nærings- og nydelsesmiddelindustrien.) S. Schmidt-Nielsen.
165 *Normal and Pathologic Anatomy of the Auriculoventricular Bundle. (Den atrio-ventriculære muskelforbindelse i menneskehjertet.) G. H. Monrad-Krohn.

163. **Oxyuris as Cause of Fatal Ileus.**—In Roll's case the patient was a young woman who did not seem to benefit by the laparotomy for the assumed perforation peritonitis. No perforation was found and the symptoms of ileus persisted. Necropsy revealed a hemorrhagic tumor, the size of an almond, in the small intestine, evidently the reaction of the tissues to the presence of a parasite, the resulting changes obstructing the lumen.

164. **Sulphuric Acid in Articles of Food.**—Schmidt-Nielsen has been investigating to find how much sulphuric acid is left in various articles of food when the acid has been used in its manufacture. In various brands of syrup he found from traces up to 84.6 mg. in 100 gm. of the syrup. This highest figure was the average from five specimens of "American glucose." He also found from traces up to 182 mg. in eleven varieties of dried fruits and up to 299.8 mg. in various other substances, gelatin, etc., the largest proportion being found in pressed hops.

165. **The Auriculoventricular Bundle of the Human Heart.**—Monrad-Krohn reports the results of study of the normal and pathologic anatomy of the bundle of His, etc., his material embracing forty-one hearts, including four with a preceding history of the Adams-Stokes syndrome, and one with a possible history of the kind. In the latter case there was fatty and vacuolar degeneration of the main bundle and a large infarct in the interventricular septum. In three of the four cases with a history of pronounced Adams-Stokes syndrome he found deposits of lime, the lime foci compressing and crowding out the muscular fibers. In the fourth case no lesion in the bundle could be discovered. The article is profusely illustrated and the author describes an improved technic for examining this region.

Ugeskrift for Læger, Copenhagen

December 22, LXXII, No. 51, pp. 1607-1640

166 Two Cases of Leukemia in One Household. V. Bie.

December 30, No. 52, pp. 1641-1660

167 *The Parathyroids Not Responsible for Tetany in Children. G. Jørgensen.

167. **The Parathyroids Not Responsible for Tetany in Children.**—Jørgensen criticizes recent communications on the connection between the parathyroids and the development of tetany. He shows that Yanase's material does not sustain his assumption in regard to the causal rôle of the parathyroids as lesions in these glands were discovered in only nine of the fifty children he examined. The other changes in the glands described were too trivial to be considered as having causal significance. In a case of tetany in Jørgensen's experience with fatal laryngospasm, the four parathyroid glands were found entirely normal even in 1,000 sections under the microscope, and he cites other authors who have found the glands normal in fatal cases of tetany.

Upsala Läkareförenings Förhandlingar

XVI, No. 3, pp. 137-230. Last indexed Jan. 21, p. 232

168 *Combination of Bronchial Asthma and Pulmonary Tuberculosis. I. Hedenius.
169 Housing Conditions in Upsala. (1907 års bostadsundersökning i Upsala.) K. A. Edin.

168. **Combination of Bronchial Asthma and Pulmonary Tuberculosis.**—Hedenius has five patients presenting this combination and discusses the means of distinguishing it from the dyspnea of pulmonary tuberculosis on the one hand and, on the other hand, from symptoms suggesting pulmonary tuberculosis with merely existing asthma. The coincidence seems to be casual except that possibly tuberculous glands may have something to do with bringing on the asthma. Neither affection seems to influence the course of the other except that the asthma may subside and disappear as the tuberculous process becomes installed in the lungs. In one of his cases the asthma of twenty years' standing subsided entirely after the onset of the tuberculosis.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

TEXT-BOOK OF NERVOUS DISEASES FOR PHYSICIANS AND STUDENTS. By Prof. H. Oppenheim of Berlin. Fifth Edition. Authorized Translation by Alexander Bruce, M.D., Physician to the Royal Infirmary, Edinburgh. Volumes I and II. Cloth. Price, 2 guineas. Pp. 1424, with 432 illustrations. Edinburgh: Otto Schulze & Co., 20 S. Frederick St., 1911.

PREPARATION OF THE COD AND OTHER SALT FISH FOR THE MARKET. Including a Bacteriological Study of the Causes of Reddening. By A. W. Bitting, Inspector, Bureau of Chemistry. Bull. 133, Bureau of Chemistry, U. S. Dept. of Agric. Paper. Pp. 63, with illustrations. Washington: Government Printing Office, 1911.

NOTES ON DENTAL METALLURGY. For the Use of Dental Students and Practitioners. By W. Bruce Hepburn, L.D.S. (Glasgow), Lecturer on Dental Metallurgy and Visiting Dental Surgeon in the Glasgow (Incorporated) Dental Hospital and School. Cloth. Price, $2 net. Pp. 213. New York: William Wood & Co., 1911.

HAY FEVER AND PAROXYSMAL SNEEZING (VASOMOTOR RHINITIS). By Eugene S. Yonge, M.D., Physician to the Manchester Hospital for Consumption and Diseases of the Throat. Cloth. Price, $2 net. Pp. 150, with illustrations. New York: William Wood & Co., 1910.

HUMAN EMBRYOLOGY AND MORPHOLOGY. By Arthur Keith, M.D., F.R.C.S., Lecturer on Anatomy, London Hospital Medical College. Second Edition. Cloth. Price, $3.50 net. Pp. 402, with 316 illustrations. New York: Longmans, Green & Co., 1910.

PROCEEDINGS OF THE FOURTH ANNUAL MEETING OF THE ASSOCIATION OF LIFE-INSURANCE PRESIDENTS. (Robert Lynn Cox, General Counsel and Manager, New York.) Held in the Hotel La Salle, Chicago, Dec. 9 and 10, 1910. Paper. Pp. 215.

THE AMERICAN YEAR-BOOK. A Record of Events and Progress, 1910. Edited by S. N. D. North, LL.D., Under Direction of a Supervisory Board Representing National Learned Societies. Cloth. Pp. 867. New York: D. Appleton & Co., 1911.

MANUAL OF DISEASES OF WOMEN. By W. E. Fothergill, M.D., Assistant Gynecological Surgeon, Royal Infirmary, and the St. Mary's Hospital. Cloth. Price, $3 net. Pp. 433, with 144 illustrations. New York: William Wood & Co., 1910.

HOW TO PREPARE A PAPER FOR PUBLICATION. Read at the Marine Biological Laboratory, Wood's Hole, Mass., July 5, 1910. By C. Bowyer Vaux. Paper. Sent Gratis. Pp. 20. Baltimore: Williams & Wilkins Co., 2427 York Road, 1910.

FORTSCHRITTE DER NATURWISSENSCHAFTLICHEN FORSCHUNG. Herausgegeben von Dr. E. Abderhalden, Berlin. Zweiter Band. Paper. Price, 12 marks. Pp. 364, with 72 illustrations. Vienna: Urban & Schwarzenberg, 1911.

DIE THERAPIE DER SYPHILIS. Ihre Entwicklung und ihr gegenwärtiger Stand. Von Dr. Paul Mulzer in Berlin. Mit einem Vorwort von Dr. P. Uhlenhuth. Paper. Price, 2.80 marks. Pp. 100. Berlin: Julius Springer, 1911.

DEUTSCHES ARZNEIBUCH. Fünfte Ausgabe 1910. Paper. Price 3.90 marks. Pp. 680. Berlin: R. v. Deckers Verlag, G. Schenck, Königlicher Hofbuchhändler, 1910.

REPORT OF THE PRESIDENT OF THE BOARD OF HEALTH OF THE TERRITORY OF HAWAII. For the Twelve Months Ended June 30, 1910. Paper. Pp. 172. K. B. Porter, Secretary.

PUBLICATIONS OF THE LIBRARY OF CONGRESS ISSUED SINCE 1897. January, 1911. Paper. Pp. 45. Washington: Government Printing Office.

THE PROCEEDINGS OF THE CHARAKA CLUB. Vol. III. Cloth. Price, $3 net. Pp. 174, with illustrations. New York: William Wood & Co., 1910.